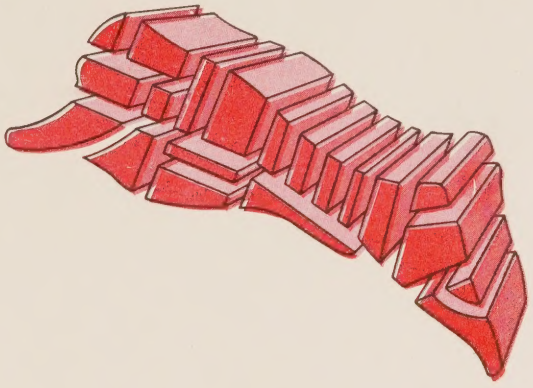

COMMISSION OF INQUIRY INTO THE MARKETING OF BEEF AND VEAL

AN ECONOMIC ANALYSIS OF BEEF PRICING AND NEWSPAPER ADVERTISING IN TORONTO

Research Report No. 5
by
Thomas F. Funk
Karl D. Meilke

Ottawa
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N O T E

The following research report was prepared at the request of the Commission of Inquiry into the Marketing of Beef and Veal to assist it in fulfilling its mandate. The analysis and conclusions contained in this report are the responsibility of the author(s) and do not necessarily reflect the views of the Commission.

Foreword

This study was prepared under contract with the Commission by Dr. Karl D. Meilke and Dr. Thomas F. Funk, Department of Agricultural Economics and Extension Education, University of Guelph.

Data on beef sales used in this study were supplied by the five major food retailers in Toronto: Dominion Stores, Loblaws, A&P, Miracle Food Mart (Steinbergs) and Food City (Oshawa Group). Retailers in nine other Canadian centres also provided information for this study. The authors appreciate the information provided by these firms. The authors also wish to thank Dr. Ron Usborne, Universtiy of Guelph, for assistance with the project.

Ottawa
February, 1976

H. Bruce Huff
Research Director

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1. Introduction

In its terms of reference, the Commission of Inquiry into the Marketing of Beef is charged with "examining the price setting mechanisms for all beef and veal sold in Canada ..... and reporting on the overall effectiveness of the marketing system." This paper reports on research dealing with beef retailing, the final stage in this marketing system. Particular emphasis is devoted to two aspects of beef retailing -- newspaper advertising and pricing.

Objectives

The general objective of this research is to analyze the beef pricing and newspaper advertising practices of Toronto supermarkets. More specific objectives are:

Advertising

1. determine the magnitude of beef advertising in Canada and assess the "reasonableness" of this level of expenditure;

2. determine the allocation of beef advertising expenditures among various media such as newspapers, radio and TV, and in-store displays;

3. measure the expenditures on newspaper advertising for beef in relationship to newspaper advertising for other meat products;

4. compare newspaper advertising levels for beef and other meat products in five major Canadian food chains;

5. analyze the competitive aspects of newspaper advertising in the Toronto market;

6. examine seasonal differences in beef advertising;

7. determine differences among food chains in the regular and the advertised specials for similar beef cuts in the same time period, and

8. examine food chain advertising practices of all meat products in Vancouver, Calgary, and Montreal as a test for the representativeness of the Toronto market.

Pricing

1. determine the aggregate price level for beef products in Toronto over the period January 1978 through May 1978;

2. examine differences in aggregate beef prices among Toronto food chains;

3. compare primal and cut price levels among Toronto food chains;

4. measure the extent of individual cut price variation over time;

5. determine the relationship among food chains in price changes for carcasses, primals and individual cuts, and

6. analyze retailer's pricing behaviour for beef with particular reference to the effects of carcass price changes, advertised specials, and seasonal influences.

Beef Sales

1. measure retail beef sales by chain in the Toronto market, and

2. measure the impact of changes in price and newspaper advertising by individual stores and their competitors on aggregate and individual beef cut sales.

Research Scope

The problem of beef pricing and advertising at the retail level is very broad and impossible to study fully in one small research project. As a result, this problem must be narrowed down to workable proportions before meaningful research can be performed. This, of course, means that certain aspects of the problem area will be neglected while others are studied in considerable detail. However, it is only through making this kind of a trade-off that any real understanding of the nature and functioning of the retailing system for beef can be achieved.

Because of the restrictions in budget, time and data, several trade-offs of the type mentioned above were made in formulating the design of this research. Among these, the most important was the decision to concentrate on a detailed analysis of the Toronto market instead of analyzing additional markets in a more perfunctory manner. Although this decision restricts the applicability of the results, it also increases the likelihood of producing meaningful conclusions for at least one market area. Moreover, by performing some analysis on other market centres a partial assessment of the representativeness of the Toronto results can be made.

A second important trade-off was the decision to approach the problem from a quantitative as opposed to a behavioural point of view. The implication of this decision is that many of the important psychological and sociological aspects of advertising and consumption of food products have been ignored in this research. Although these general factors are extremely important in understanding long run trends in the role and effectiveness of advertising and pricing in meat consumption, over fairly short periods of time they tend to remain relatively constant. Therefore, because of the short run perspective of this research, the exclusion of these factors may not be a serious problem in achieving the objectives of this study.

Structure of Report

This report consists of five major chapters, each containing several sections. This first chapter has discussed the objectives and scope of the total project. The second chapter describes the procedures and results of an in-depth analysis of beef advertising, while the third chapter concentrates on a statistical analysis of beef pricing. In the fourth chapter, major attention is focused on estimating retail level demand functions for beef. Finally, the fifth chapter summarizes the results and major conclusions of the research. In addition to discussing procedures and results each chapter also discusses the data and data sources used in the analysis.

2. ADVERTISING ANALYSIS

This chapter describes the results of an intensive analysis of beef advertising in the Metropolitan Toronto market. Because of budget, time and data restrictions this analysis concentrates on beef advertising in newspapers. Other forms of advertising such as radio and television, in-store displays, and other types of printed media are considered in much less detail. These other types of advertising are usually oriented more toward building general corporate image over long periods of time than promoting specific products, therefore, it is not felt that their absence will significantly affect the analysis.

This chapter consists of five major sections. The first section explains in detail the data sources and data gathering procedures used in the study. The second section contains a discussion of total beef advertising, while the third section explores beef advertising in relation to that of other meats. The fourth section gives a detailed analysis of the beef advertising data from the Toronto market. Finally, the fifth section is devoted to a consideration of the results of a similar analysis of data collected from Vancouver, Calgary and Montreal.

Data Sources

The advertising data for the Toronto market was collected by means of a detailed audit of food advertisements in the Toronto Star for the period January 1974 through June 1975 for five major food chains. The information collected in this audit consisted of the following:

- date
- size of food ad
- chain name
- total number of advertised items
- number of beef items
- number of pork items
- number of poultry items
- number of veal items
- number of lamb items
- number of processed meat items
- the advertised prices for 37 individual beef cuts.

All of this information was recorded on coded data collection forms from microfilmed copies of the newspapers and then keypunched for subsequent computer analysis. Since most of the recording was performed by one trained clerk, any biases arising from differences in interpretation or classification should be minimal.

Every effort was made to eliminate or reduce the possibility of errors occurring in the data collection process. As a result, a great deal of planning went into this aspect of the overall project. Very early in the planning it became evident that the greatest problem associated with collecting advertising information of this type was with terminology. It was found that all meat cuts, and particularly beef cuts, have several different names, all of which describe the same basic piece of meat. In addition, there is a problem of determining if the cut has the bone left in, part of the bone removed, or all of the bone removed (boneless). To solve these problems it was decided to randomly sample 10 papers, and from each paper record the verbatim description of all beef items mentioned in any ad. From this a detailed list of specific beef cuts and the relative frequency with which these were featured was developed. The final list of 37 cuts was then selected from this preliminary list based on the frequency with which each cut had been included in the sampled advertisements. The final list did not contain all of the beef items that were featured at one time or another during the 18-month period; however, it accounted for approximately 90 percent of these items and hence was very adequate for this project.

In addition to collecting detailed advertising information on the Toronto market, some information was also collected for Vancouver, Calgary and Montreal. The information recorded for these markets consisted of the total number of advertised items, and the number of beef, pork, poultry, veal, lamb and processed meat items. No price data were obtained for these markets. The collection of this additional information was carried out by Market Facts of Toronto. The papers audited for these cities were The Vancouver Sun, The Calgary Herald and La Presse. Information was collected for four chains in Vancouver and Calgary and for six chains in Montreal.

Total Beef Advertising

As a first step in the analysis of beef advertising an attempt was made to determine the magnitude of this expenditure in relation to total beef sales. Data for this analysis were proved by the Commission's survey of retailers[1] as well as by the newspaper audit.

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[1] The Commission questionnaire was sent to the major food chains in 10 metropolitan centres of Canada.

In the Commission's survey of retailers, data was collected on total beef sales and total advertising expenditures for all of the major supermarket chains in Canada. No specific information was collected on beef advertising expenditures since it was felt that the retailers would not be able to provide this type of detailed information. However, using the retailer's estimate of total advertising expenditure, a procedure was developed to make an approximate estimate of the proportion of this sum devoted to beef. This was done by using the data from the newspaper audit to calculate the proportion of newspaper advertising allocated to beef and then multiplying this proportion by total advertising expenditures. This estimate of beef advertising was then divided by total beef sales to give a measure of beef advertising as a percent of sales.

These estimates are shown for 12 Canadian supermarket chains in Table 1. The overall average beef advertising ratio was calculated to be 1.1 percent with a high of 4.3 percent and a low of 0.2 percent.

In order to evaluate the "reasonableness" of the beef advertising ratio it was necessary to compare this estimate with similar measures from other industries. Data for this comparison are provided in Table 2 which shows advertising ratios from selected manufacturing and retailing industries. The most direct comparisons can be made with other retailing establishments such as grocery stores, meat markets, department stores and furniture stores. These comparisons show that the beef advertising ratio is approximately the same as the advertising ratios for grocery stores and meat markets, but considerably lower than the ratio for department stores and furniture stores. Thus, in terms of other products, it appears that the level of beef advertising is very much in line.

The data from the Commission's survey of retailers was also used to calculate the percentage allocation of total advertising dollars among several media. The average allocations for 1974 were:

Newspapers	62 percent
Radio and TV	16 percent
Handbills	9 percent
In-store Displays	5 percent
Other	7 percent

By far, the largest percentage was devoted to newspaper advertising. This is an important result since it supports the basic decision made in this research to concentrate the analysis on advertising in this media.

Beef Advertising in Relation to Other Meats

In the newspaper audit for the Toronto market, information was collected on the total number of beef, pork, poultry, lamb, veal and processed meat items advertised by each chain. Figure 1 summarized the average number of these items advertised each week for each of the 18 months included in the advertising audit. For example, this figure shows that in January of 1974 an average of 5.4 processed meat items were advertised per week by each chain as well as 4.8 pork items, 3.8 beef items, 2.4 poultry items, 0.2 lamb items and no veal items. This figure also shows that the

Table 1: Beef Advertising in Newspapers, by Retail Food Chains, as a Percent of Beef Sales, Canada, 1974

Retail Chain	Location	Beef Advertising[1] as a Percent of Sales
A	Halifax	4.3
B	Halifax	0.8
C	Montreal	0.9
D	Montreal	0.2
E	Toronto	2.5
F	Toronto	1.1
G	Toronto	0.6
H	Toronto	1.4
I	Toronto	0.7
J	Toronto	0.2
K	Kitchener	0.2
L	London	2.4
M	London	1.5
N	London	0.8
O	London	0.4
P	Thunder Bay	0.5
Q	Winnipeg	1.0
R	Alberta	0.9
		1.1 overall

[1] Obtained by multiplying total advertising by 8 percent which is the percentage of total newspaper advertising in Toronto allocated to beef products.

Source: Commission survey

Table 2: Selected Advertising Ratios, 1965

Industry	Ratio of Advertising to Sales
Manufacturing:	
Tobacco	5.08
Leather	0.90
Clothing	1.01
Furniture	1.09
Machinery	0.84
Chemicals	3.85
Food and beverage	2.03
Meat processors	0.39
Breakfast cereal	12.12
Dairy products	0.65
Bakery products	3.83
Beverages	5.93
Retailing:	
Grocery stores	1.43
Meat markets	1.31
Department stores	3.09
Furniture stores	5.25

Source: Statistics Canada. Advertising Expenditures in Canada, 1965, Cat. No. 63-216.

number of weekly processed meat items advertised by each chain was far greater than any other meat product in all months except February and March 1974. The importance of beef and pork advertising is second only to processed meats. The average number of pork advertisements per week was found to be greater than the average number of beef advertisements in eight of the 18 months, while the opposite situation prevailed in the remaining 10 months. Following beef and pork in importance are poultry items which tended to be fairly stable in a range of two to four advertisements per week during the entire period. Finally, of least importance are veal and lamb items which were advertised very infrequently.

Figure 1 also shows considerable month-to-month variation in the number of advertisements for meat products with the exception of poultry. This variation is particularly pronounced for beef and pork products. In the case of beef, this analysis shows that the lowest number of advertisements per week (2.0) occurred in August 1974, while the greatest number (8.6) appeared in February 1975. In general, beef advertising was fairly stable throughout 1974, but increased dramatically in January 1975. For pork, the analysis shows that the lowest number of advertisements per week (2.4) occurred in January 1975, while the greatest number (6.8) appeared in February 1974. Overall, pork advertising was high in the winter of 1974, declined throughout the spring, summer and fall, and then increased again during the winter of 1975.

While poultry advertising did not show a great deal of month-to-month variation, it is interesting to observe the pattern that is present. Since poultry products, and particularly turkeys, are usually considered holiday items, one might expect to see some increase in advertising for these products during months in which major holidays occur. Indeed, reference to Figure 1 indicates that this is the case. The two peaks in April 1974 and March 1975 correspond to the Easter holiday in these two years, while the peak in December 1974 obviously is associated with Christmas.

The large increase in beef advertising during the winter months of 1975 is significant and deserves further consideration. In an attempt to determine why this increase occurred, it was decided to compare the average weekly advertising of beef items to the average retail prices for these same items. The results of this analysis are shown in Figure 2 and clearly demonstrate the relationship between these two variables. Although not perfect, an indirect relationship obviously exists between retail prices and number of advertisements for beef items. Apparently this is due to the increased supplies of beef on the market at the time of lower prices, hence the opportunity for retailers to "special" beef and thereby move these larger quantities. This is partially accomplished by increasing the advertising of beef items.

A more detailed examination of this data was undertaken by computing the average number of meat items advertised per week by each of the Toronto chains. Results of this analysis are shown in Table 3. These results show that there are considerable differences in terms of the extent to which the chains advertise different meat products. For

FIGURE 1

Average Number of Weekly Ads by Type of Meat by Five Food Chains in Toronto, 1974-75

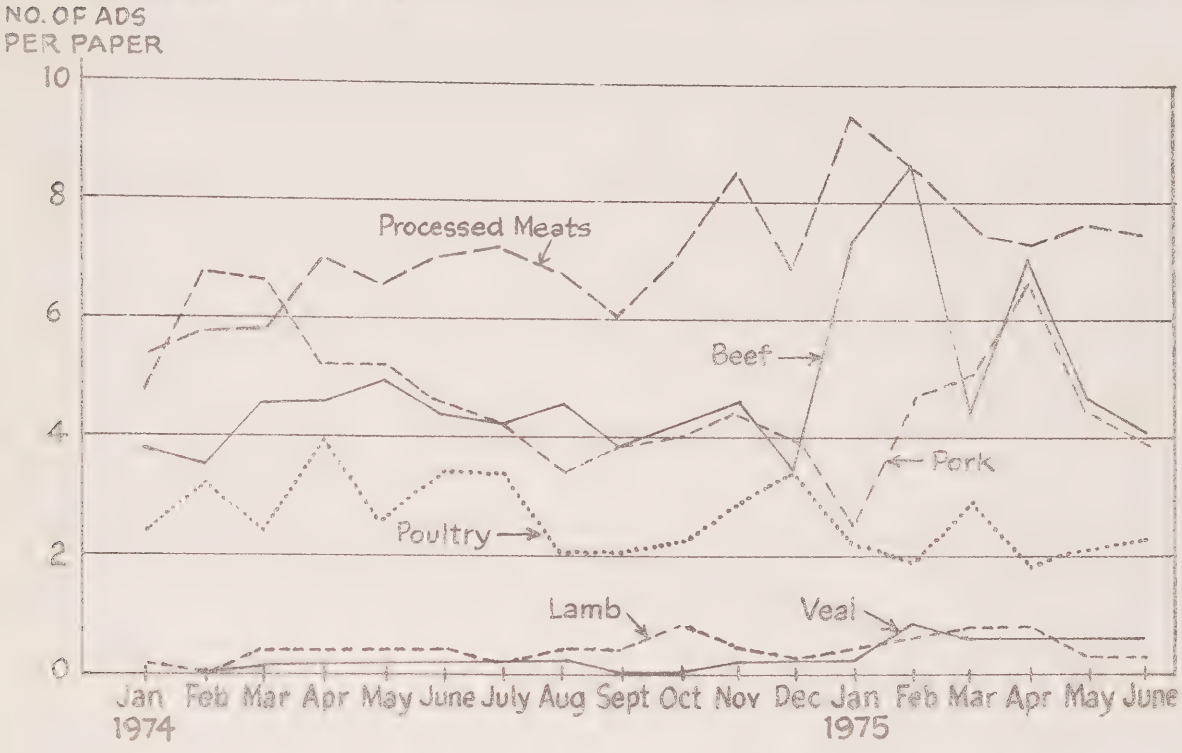


FIGURE 2

Comparison of Number of Weekly Beef Ads with Average Retail Beef Prices, Toronto, 1974-75

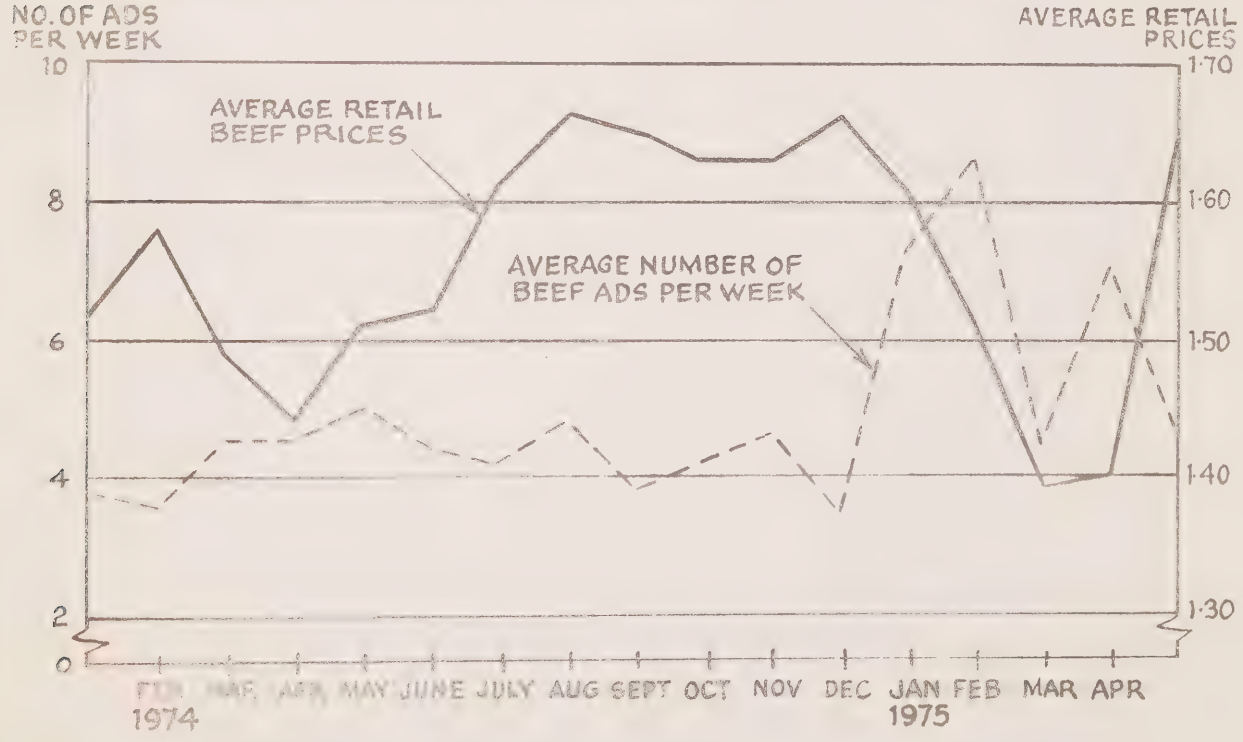


Table 3: Number of Advertised Meat Items by Chain by Type of Meat, Toronto, January 1974 to June 1975

	Average Number of Items per Week				
	A and P	Dominion	Loblaws	Miracle	Food City
Beef	5.2	3.8	6.5	6.3	2.6
Pork	5.2	4.7	6.0	5.0	2.5
Poultry	2.4	2.3	2.6	4.7	1.0
Veal	-	0.1	-	1.0	0.2
Lamb	0.3	0.3	0.4	0.7	0.2
Processed Meats	6.3	9.2	8.1	8.3	3.2
Total	19.4	20.4	23.6	26.0	9.6

Source: Commission Survey

Table 4: Advertising Expenditures by Chain and by Type of Meat, Toronto, January 1974 to June 1975

	Average Advertising Expenditures per Week				
	A and P	Dominion	Loblaws	Miracle	Food City
Beef	$492	$511	$945	$565	$273
Pork	448	598	845	433	270
Poultry	214	286	352	399	106
Veal	2	7	2	118	16
Lamb	30	40	60	59	18
Processed Meats	575	1227	1134	778	333
Total	$1761	$2269	$3338	$2352	$1016

Source: Commission Estimates

instance, in the case of beef, Loblaws, Miracle Food Mart and A and P are heavy advertisers while Dominion and Food City advertise at a much lower level. This same pattern holds true for pork with the exception that A and P advertises slightly more heavily than Miracle Food Mart. For poultry, the Toronto leader in advertising is Miracle Food Mart by a substantial margin. Grouped very closely in second place are Loblaws, A and P and Dominion, followed at a considerable distance by Food City. None of the five chains advertised veal and lamb products very heavily; however, Miracle Food Mart did devote substantially more advertising space to these products than did the other chains. Finally, Dominion was found to allocate the most space to processed meat products, followed closely by Miracle Food Mart and Loblaws, and at some distance by A and P and Food City.

In addition to calculating the average number of advertised items, the average advertising expenditures for each chain were also computed for each of the six meat products. To determine advertising expenditures the proportion of each ad devoted to any product was calculated by dividing the number of items advertised in that product class by the total number of items advertised. These proportions were then multiplied by the total cost of the ad to determine the cost to be allocated to each product. The total cost of the ad was calculated by multiplying the number of pages in the ad by $4,300, the approximate page cost during 1974 in the Toronto Star.

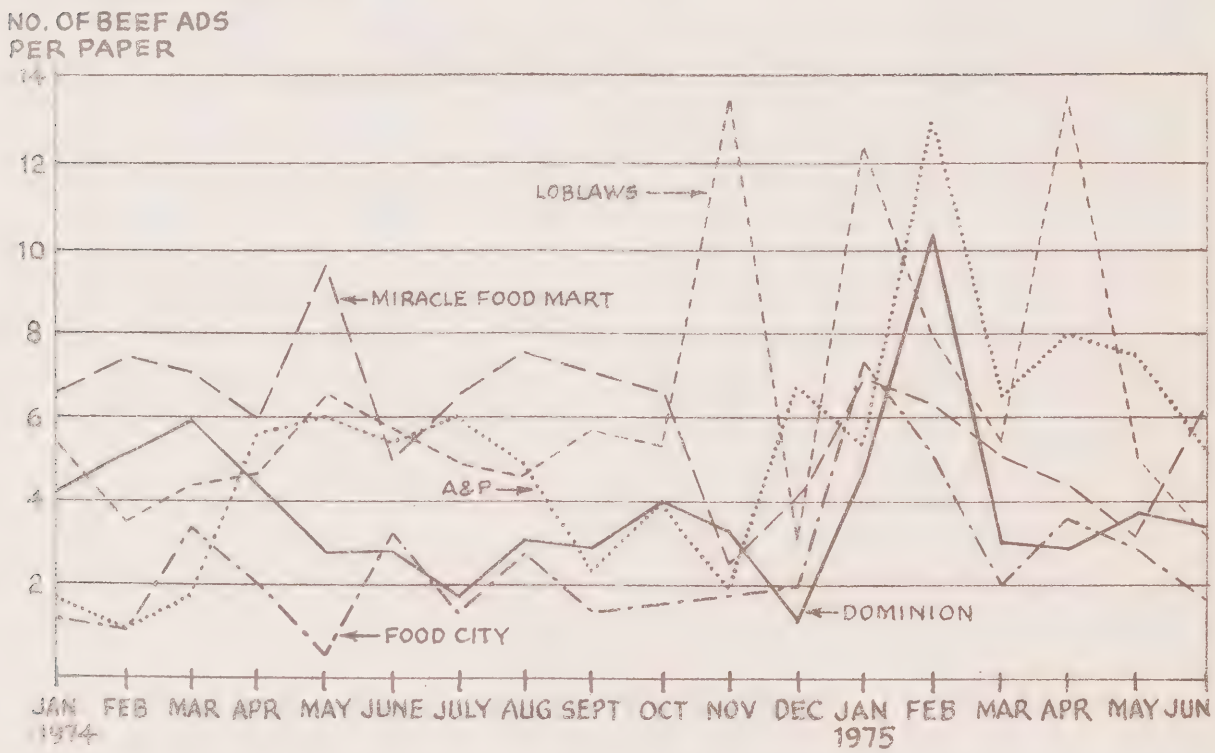
The advertising expenditures reported in Table 4 show that the average chain spent slightly more than $2,200 a week on meat advertising and approximately $550 a week on beef advertising during the 18-month period under consideration. Expenditures for beef advertising varied from a high of $965 a week for Loblaws to a low of $273 a week for Food City. Although the number of beef items advertised by Loblaws is not that much greater than that of any other chain, their advertising expenditures are substantially higher. This is because Loblaws followed a practice in their advertising of featuring a small number of items in a relatively large space. As a result, their cost per item and total advertising expenditures are substantially higher than those of any other chain.

The advertising data was examined in more detail by comparing monthly changes in the average number of advertised items by individual chains over the 18-month period. Results of this more detailed analysis are shown in tabular form for each of the six major meat products in Appendix Table A.1. through A.6., and in graphical form for beef in Figure 3.

The data for beef products shows a rather erratic pattern over the 18 months, particularly for the period November 1974 through April 1975. Prior to this, some month- to-month changes had been observed, but certainly none of the same magnitude. As noted earlier, this latter period was one of rather substantial changes in the average level of retail beef prices. This probably explains much of the variation observed in advertising allocations by the individual chains.

FIGURE 3

Average Number of Weekly Beef Ads by Chain
Toronto, 1974-75



Detailed Analysis of Beef Advertising

In addition to collecting advertising information on the six major meat categories, the Toronto newspaper audit also collected more detailed data on 37 individual beef cuts. This section discusses the results of this detailed information.

Table 5 shows the total number of ads and the number of ads by chain for each of the 37 beef cuts. In terms of the total number of advertisements, this table shows that there are considerable differences in the extent to which the individual beef cuts are advertised; that is, certain beef cuts tend to be heavily advertised while others receive very little, if any, advertising by the major chains. Those cuts which received major advertising emphasis during the 18 months covered by the audit were:

Chuck Roasts (all types)	187 ads
Hamburger Patties (frozen)	142 ads
Short Rib Roasts (all types)	134 ads
Chuck Steaks	110 ads
Prime Rib Roasts (all types)	101 ads
Minced Beef	87 ads
Rib Steaks	85 ads
Beef Steakettes (frozen)	70 ads
Stewing Beef	68 ads
Beef Liver	68 ads

On the other hand, several other cuts, particularly eye of round roast, flank steak, point brisket and shank centre received virtually no advertising during this period. The roast category as a whole received the highest advertising allocation with 630 ads, followed by the other beef category with 532 ads and the steaks with 520 ads.

In addition to showing the total number of advertisements for each of the beef cuts, Table 5 also shows the manner in which these advertisements were distributed among the five chains. Here too we see considerable variation in the extent to which the chains feature certain cuts of beef in their advertising.

The interesting feature of Table 5 is the degree to which chains tend to concentrate their advertising on certain cuts. An analysis of the information in this table shows that one chain accounts for 50 percent or more of the advertising for 13 out of the 37 cuts. These cuts and the leading advertiser for each are:

Table 5. Number of Ads by Chain and by Beef Cut, Toronto, January 1974 to June 1975

	Total Ads	A and P	Dominion	Loblaws	Miracle	Food City
Bottom Round Roast	36	5	14	12	-	5
Cross Rib Roast	50	9	16	2	10	13
Eye of Round Roast	2	-	-	-	2	-
Point Sirloin Roast	11	3	2	5	-	1
Prime Rib Roast (1-5 ribs)	32	4	6	7	12	3
Prime Rib Roast (6-7 ribs)	69	1	2	11	49	6
Rump Roast (bone in)	35	1	15	6	6	7
Rump Roast (boneless)	9	5	2	2	-	-
Short Rib Roast (all bones in)	57	6	5	13	29	4
Short Rib Roast (blade bone out)	40	10	1	1	18	10
Short Rib Roast (boneless)	37	36	-	1	-	-
Chuck Roast (all bones in)	15	4	7	3	1	-
Chuck Roast (blade bone out)	62	16	7	6	20	13
Chuck Roast (boneless)	104	34	3	40	27	-
Top Round Roast	10	4	1	4	-	1
Round Bone Shoulder Roast	61	12	2	7	26	14
Flank Steak	4	2	2	-	-	-
Porterhouse Steak	43	2	12	19	1	9
Rib Steak	85	13	11	15	36	10
Sirloin Steak	42	2	6	20	10	4
Sirloin Point Steak	12	5	-	7	-	-
Wing Steak	30	-	11	11	-	8
Cube Steak	59	5	-	49	2	3
Chuck Steak	110	29	25	29	23	4
Round Steak	43	5	17	14	1	6
Beef Steakettes	70	28	23	5	12	2
Round Bone Shoulder Steak	22	4	-	1	16	1
Point Brisket	6	1	2	1	1	1
Plate Brisket	36	1	7	2	25	1
Shank Centre	5	3	-	2	-	-
Stewing Beef	68	21	6	35	-	6
Minced Beef	87	5	17	28	18	19
Minced Chuck	71	26	7	37	-	2
Minced Round	11	3	-	6	-	2
Hamburger Patties	142	32	37	16	45	12
Beef Liver	68	67	8	13	14	6
Beef Braising Ribs	38	4	4	6	20	4
Total Beef Ads	1,678	368	278	431	424	177

Source: Commission Survey

Eye of Round Roast	Miracle
Prime Rib Roast (6-7 ribs)	Miracle
Rump Roast (boneless)	A and P
Short Rib Roast (all bones in)	Miracle
Short Rib Roast (boneless)	A and P
Sirloin Point Steak	Loblaws
Cube Steak	Loblaws
Round Bone Shoulder Steak	Miracle
Plate Brisket	Miracle
Stewing Beef	Loblaws
Minced Chuck	Loblaws
Minced Round	Loblaws
Beef Braising Ribs	Miracle

Further analysis shows that if the percentage of advertising accounted for by one chain is reduced to 40 percent, the number of cuts affected increases to 30. Thus there are only seven cuts out of the 37 considered for which advertising is distrubuted fairly evenly across all of the chains. This result seems to indicate that in most cases chains do not tend to compete directly with each other by advertising the same cut of beef, but rather each chain has certain cuts which they tend to "special" frequently, while ignoring others.

An attempt was also made in this research to examine seasonal influences in beef advertising. The objective of this analysis was to determine the extent and pattern of any seasonal effect on the advertising of the 37 individual beef cuts identified for detailed analysis.

The data in Table 6 shows the seasonal indices for each of the beef cuts in each of the six quarters from January 1974 through June 1975.[2]

---

[2] The following procedure was developed and used:

$$y_{ij} = \frac{x_{ij}}{\sum_{i=1}^{37} x_{ij}} \qquad j = 1,2,\ldots,6$$

$$s_{jj} = \frac{y_{ij}}{\sum_{j=1}^{6} y_{ij} / j} \qquad i = 1,2,\ldots,37$$

where: x_{ij} = the number of advertisements for cut i in quarter j

y_{ij} = the proportion of advertisements for cut i in quarter j relative to the total number of beef ads in quarter j

s_{ij} = the seasonal index for cut i in quarter j

Table 6: Seasonal Pattern of Beef Advertising by Individual Cut by five major Food Chains, Toronto January, 1974 to June, 1975.

Beef Cut	No. of Beef Ads						
	Winter 1974	Spring 1974	Summer 1974	Fall 1974	Winter 1975	Spring 1975	Total Ads
Bottom Round Roast	82	52	76	103	134	154	36
Cross Rib Roast	58	136	54	103	114	132	50
Eye of Round Roast	-	-	-	122	78	-	2
Point Sirloin Roast	-	-	-	73	118	108	11
Prime Rib Roast (1-5 ribs)	260	73	80	44	127	16	32
Prime Rib Roast (6-7 ribs)	124	87	76	114	121	77	69
Rump Roast (bone in)	245	42	-	66	75	73	35
Rump Roast (boneless)	-	-	55	59	195	89	9
Short Rib Roast (all bones in)	75	160	129	51	90	94	57
Short Rib Roast (blade bone out)	30	75	-	136	116	144	40
Short Rib Roast (boneless)	20	146	160	97	62	115	37
Chuck Roast (all bones in)	36	-	-	36	216	110	15
Chuck Roast (blade bone cut)	36	92	56	122	157	136	62
Chuck Roast (boneless)	66	150	141	126	38	78	104
Top Round Roast	-	46	-	55	215	83	10
Round Bone Shoulder Roast	78	132	135	78	43	133	61
Flank Steak	100	-	-	-	128	74	4
Porterhouse Steak	222	81	29	168	103	35	43
Rib Steak	153	82	120	98	68	78	85
Sirloin Steak	228	69	45	115	106	36	42
Sirloin Point Steak	55	46	-	55	180	165	12
Wing Steak	222	75	41	67	144	50	30
Cube Steak	131	91	111	84	101	80	59
Chuck Steak	102	135	124	64	58	115	110
Round Steak	84	114	78	85	110	126	43
Beef Steakettes	70	144	158	81	71	74	70
Round Bone Shoulder Steaks	101	107	210	25	-	56	22
Point Brisket	156	65	-	78	100	-	6
Plate Brisket	256	93	85	74	23	68	36
Shank Centre	-	-	-	77	50	174	5
Stewing Beef	54	54	91	141	147	113	68
Minced Beef	34	101	87	136	160	82	87
Minced Chuck	38	65	179	156	75	86	72
Minced Round	-	41	-	49	161	146	11
Hamburger Patties	87	114	148	116	47	86	142
Beef Liver	78	38	52	68	154	210	68
Beef Braising Ribs	98	132	91	39	166	73	38

Source: Commission Survey

These are the usual type of seasonal indices which express advertising in any period as a percentage of average advertising over the entire period. Therefore, a seasonal index of 100 in a period indicates that the amount of advertising done in that period is equal to the average over all six periods. Similarly an index greater than 100 indicates a larger than average amount of advertising, while an index less than 100 indicates a smaller than average level of advertising.

In reviewing the information in Table 6 it is difficult to detect a seasonal pattern for any of the cuts. This is mainly because information is available only for 1974 and the first half of 1975. Thus, while there are two observations for the winter and spring quarters there is only one for the summer and fall quarters. As a result, it is impossible to see if the seasonal pattern implied by the 1974 data is fully repeated during 1975. Even with this limited data, however, it is obvious that for most cuts the apparent pattern established in 1974 is not repeated in 1975.

Despite this problem it is possible, and perhaps useful, to determine the quarter of highest advertising for each of the cuts.

Winter

Prime Rib Roasts
Rump Roasts
Point Sirloin Roasts
Chuck Roasts
Top Round Roasts
Flank Steak
Sirloin Point Steak
Porterhouse Steak
Rib Steak
Sirloin Steak
Wing Steak
Cube Steak
Point Brisket
Plate Brisket
Stewing Beef
Minced Beef
Minced Round
Beef Braising Ribs

Spring

Cross Rib Roast
Short Rib Roast
Bottom Round Roast
Chuck Steak
Round Steak
Shank Centre
Beef Liver

Summer

Round Bone Shoulder Roast
Beef Steakettes -
Round Bone Shoulder Steaks
Minced Chuck
Hamburger Patties

Fall

Eye of Round Roast

While the above breakdown does not provide conclusive evidence as to the influence of seasonal factors in beef advertising, it does demonstrate the fact that many roast and most steak items receive their greatest promotional push during the winter and spring months with much reduced levels occurring in the summer and particularly the fall months.

The analysis of the detailed beef advertising data to this point has been confined to looking at differences in advertising, first among chains, and secondly over time. The last phase of this analysis involves combining these two variables to determine the joint impact of chains and time on the advertising of beef. The data for the analysis which follows is presented in Appendix Tables A.7. through A.43. These tables show the number of advertisements and the average advertised prices by chain and by month for each beef cut. The information contained in these tables is summarized in Tables 7 and 8 and discussed in the remainder of this section.

Table 7 presents a comparison of the average regular and advertised prices for 14 selected beef cuts from Toronto.[3] This information shows substantial differences among the cuts in the average regular and advertised prices. The largest differences occurred for steaks, and in particular for porterhouse and flank steaks where the average differences were 86 cents and 65 cents respectively. Sizeable differences also were found for the roasts, especially for bottom and top round roasts.

Using the data in Appendix Tables A.7. through A.43. for the 14 cuts listed in Table 7, an attempt was made to determine if the advertised price for any chain in any month was ever higher than the regular price for another chain in the same month, and if so, how often this occurred and which chains were involved. The results of this investigation are shown in the last column of Table 7. These results show that on some occasions chains would advertise a beef item at a higher price than their competitors' regular price. This seemed to occur most frequently for short rib roast and rib steak; however, this was to be expected since these items were advertised more frequently than many of the other items considered. Although all the chains engaged in this type of activity at least once, two firms - - A and P and Loblaws - - were the leaders with 11 instances in which their advertised prices were higher than their competitors' regular prices. In total 31 instances of this were found. Considering the fact that the total possible number of cases is 1,190 (5 chains X 14 cuts X 17 months), then 31 cases represents only a 2.6 percent occurrence of this type of practice. Although this may be considered high by some people, it does not seem to be an alarming rate.

The final phase of this analysis was to compare the advertised prices for each cut in each month to determine both the average and the largest price differences available to consumers on advertised items. This was done by using the information in Appendix Tables A.7. through A.43. to compare the advertised prices for each cut in those months where

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[3] Regular price is the unadvertised price obtained from the Ambler Pricing Service. Only 14 cuts were included since comparable data on regular prices were not available for the remaining 23 cuts.

Table 7: A Comparison of Average Regular and Advertised Prices for Selected Meat Cuts, Toronto, January 1974 to June 1975

Beef Cut	Average Regular Price	Average Advertised Price	Difference	Number of Months in which a Firm Advertised Price was greater than Another Firm's Regular Price
Bottom Round Roast	1.72	1.39	.33	
Cross Rib Roast	1.25	1.06	.19	3 A and P
Eye of Round Roast	2.11	2.03	.08	
Rump Roast (bone in)	1.60	1.47	.13	1 Dominion
Short Rib Roast (blade bone out)	0.98	0.84	.14	5 A and P, 1 Miracle, 1 Food City
Top Round Roast	1.87	1.59	.28	1 A and P
Round Bone Shoulder Roast	1.10	0.85	.25	
Flank Steak	1.79	1.14	.65	
Porterhouse Steak	1.95	1.09	.86	1 Dominion, 2 Loblaws
Rib Steak	1.47	1.36	.11	1 A and P, 1 Dominion, 5 Loblaws, 1 Miracle
Sirloin Steak	1.82	1.55	.27	1 Dominion, 2 Loblaws
Wing Steak	1.93	1.58	.35	2 Dominion
Shank Centre	1.02	0.91	.11	1 Loblaws
Stewing Beef	1.36	1.25	.11	1 A and P, 1 Loblaws

Source: Commission Survey

Table 8: Average and Largest Differences Between the Prices for Advertised Specials in the Same Month by Individual Beef Cuts, Toronto, January 1974 to June 1975.

	Average Price Difference	Largest Price Difference
Bottom Round Roast	.12	.24
Cross Rib Roast	.15	.36
Eye of Round Roast	*	*
Point Sirloin Roast	.21	.38
Prime Rib Roast (1-5 ribs)	.14	.35
Prime Rib Roast (6-7 ribs)	.14	.40
Rump Roast (bone in)	.09	.23
Rump Roast (boneless)	*	*
Short Rib Roast (all bones in)	.13	.23
Short Rib Roast (blade bone out)	.08	.27
Short Rib Roast (boneless)	*	*
Chuck Roast (all bones in)	.15	.24
Chuck Roast (blade bone out)	.11	.44
Chuck Roast (boneless)	.16	.40
Top Round Roast	.17	.20
Round Bone Shoulder Roast	.15	.26
Flank Steak	*	*
Porterhouse Steak	.21	.66
Rib Steak	.24	.59
Sirloin Steak	.22	.44
Sirloin Point Steak	*	.35
Wing Steak	.14	.28
Cube Steak	.34	.83
Chuck Steak	.15	.36
Round Steak	.43	1.00
Beef Steakettes	.10	.53
Round Bone Shoulder Steaks	.23	.46
Point Brisket	*	*
Plate Brisket	.25	.44
Shank Centre	*	*
Stewing Beef	.13	.30
Minced Beef	.13	.30
Minced Chuck	.08	.20
Minced Round	.10	.11
Hamburger Patties	.19	.34
Beef Liver	.13	.23
Beef Braising Ribs	.08	.21

* Indicates insufficient observations for calculations.

Source: Commission Survey

two or more chains featured the same item. The results of this analysis are reported in Table 8 and again show considerable variation among the cuts in the average and largest price differences. As before, the highest average price differences were observed for steaks, particularly for round steaks which had an average price difference over all months of 43 cents with the largest single month price difference of $1.00. Similar large differences were also found for plate brisket, round bone shoulder steaks, cube steaks, sirloin steaks, rib steaks, porterhouse steaks and point sirloin roasts. In a few cases - most notable those of rump roasts, short rib roasts, minced chuck and beef braising ribs - the differences were found to be quite small.

Advertising in Other Markets

Although the scope of this research did not permit a detailed analysis of meat advertising in other markets across Canada, some very basic analysis was done for three additional cities - - Montreal, Calgary and Vancouver. The purpose of this analysis was to provide measures on the extent and timing of meat advertising in these centres for comparison with similar measures for Toronto. Data for this analysis was collected by Market Facts using identical procedures to the Toronto audit.

The results of this analysis for beef, pork, poultry, veal, lamb and processed meats are shown in Table 9. These results show similar patterns of meat advertising among the four markets with some differences in advertising levels. For three of the four markets the importance of beef and pork advertising are about the same. The exception is Montreal where pork advertising is substantially more important than beef advertising. The largest difference among the four markets was found in the case of meat advertising as a percent of total advertising. Here Toronto was the highest with 30 percent of an average advertisement being devoted to meats, while Vancouver was the lowest with only 15 percent of an average advertisement allocated to meat products.

The data for beef advertising was analyzed further by considering changes in advertising levels over time. The results of this analysis are shown in Figure 4. Although there are differences in the pattern of beef advertising among the four cities, some similarities can be noted, the most important of which is the higher levels of beef advertising in the summer months for all cities.

The major reason for comparing advertising in Vancouver, Calgary and Montreal with Toronto was to provide some basis for generalizing the the results of this project to ther market centres. Although there are no clear-cut guidelines to use in this process, the comparisons shown in Table 9 and Figure 4 seem to indicate that while the basic nature of meat advertising is the same in each centre, there are substantial differences in the level and timing of the ads. As a result, the data from the Toronto market may not be representative of other urban centres across Canada, and care should be employed in any broader interpretation of the conclusions of this analysis.

Table 9: Comparison of Meat Advertising for Four Canadian Cities, 1974.

	Average Number of Items Per Week			
	Toronto	Montreal	Vancouver	Calgary
Beef	4.3	2.3	2.5	4.3
Pork	4.8	5.1	2.3	4.2
Poultry	2.8	1.1	1.3	1.7
Veal	0.1	0.2	0.1	0.1
Lamb	0.4	0.2	0.3	0.1
Processed Meats	6.6	3.4	3.2	3.2
Total Meat	19.0	12.3	9.7	12.9
Meat as a percent of total items	30.0	22.8	15.6	17.0

Source: Commission Survey

FIGURE 4

Comparison of Beef Advertising in Four Canadian Cities, 1974

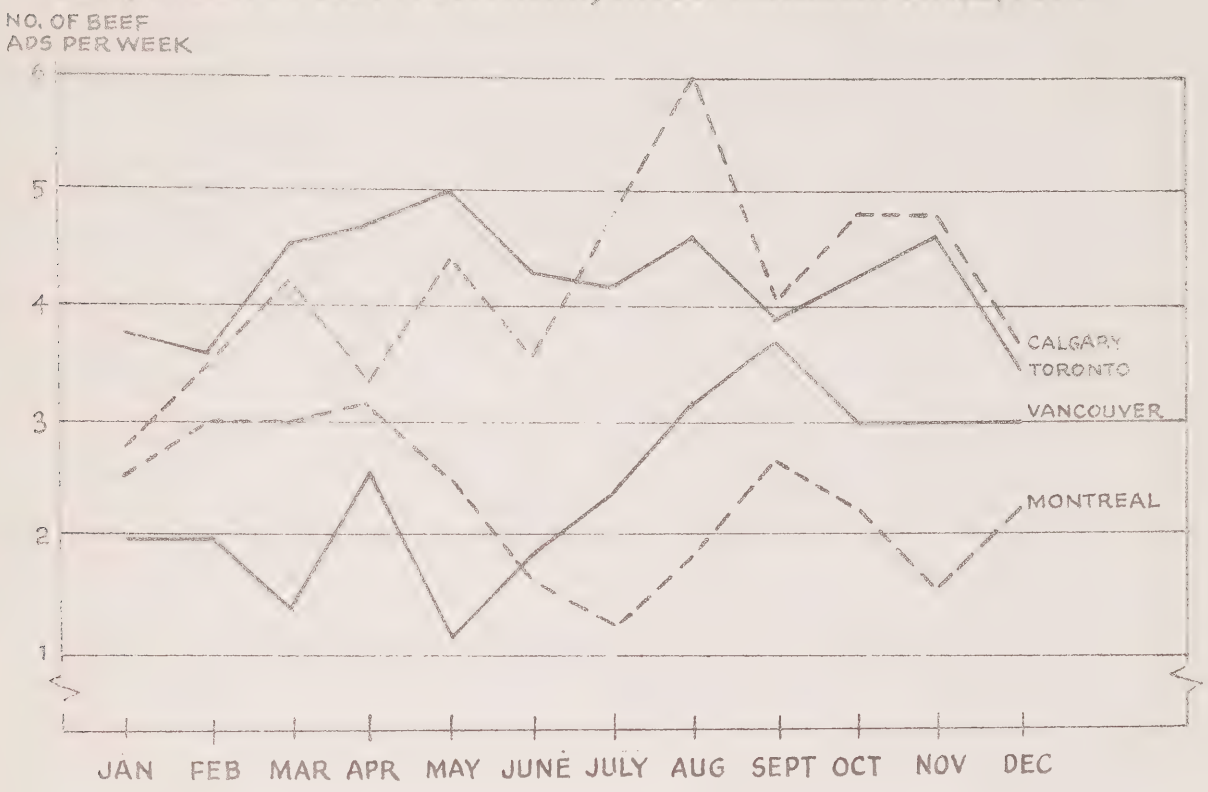
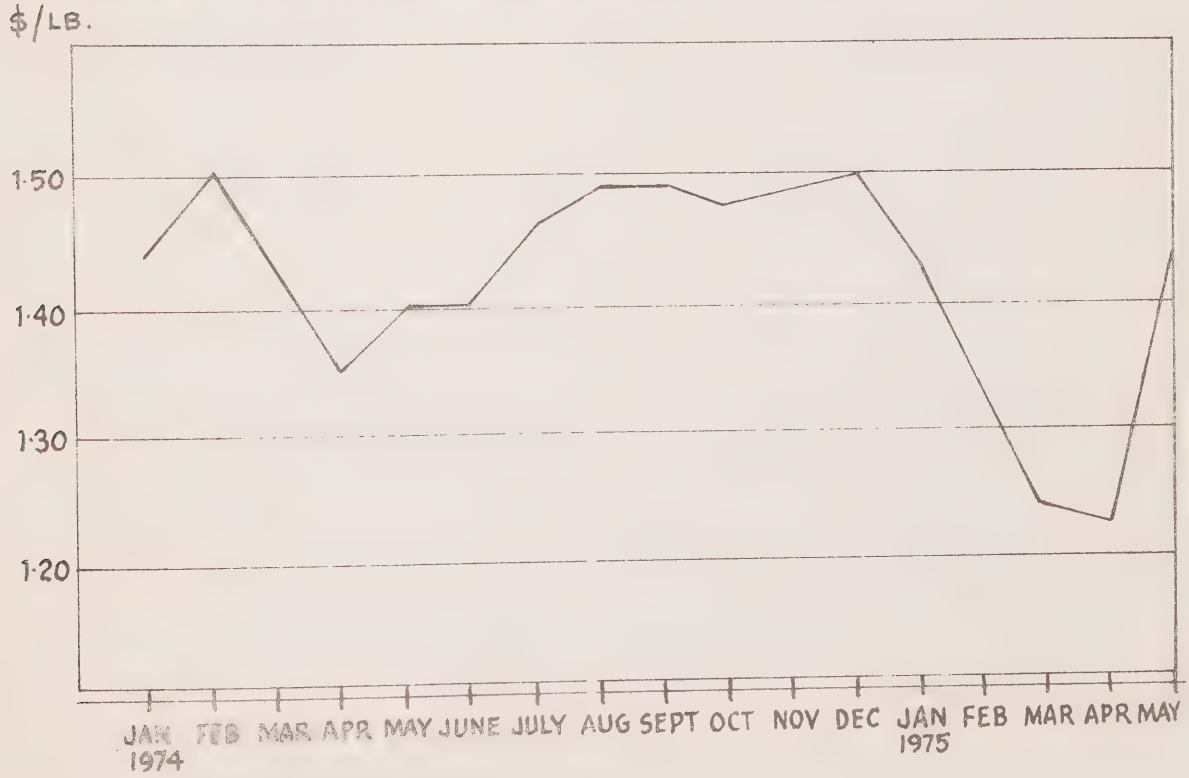


FIGURE 5

Average Retail Carcass Price, Toronto, 1974-75



3. Pricing Analysis

This chapter consists of four major sections which describe the results of an in-depth statistical analysis of beef pricing in the Metropolitan Toronto market. In the first section the data sources are discussed. This is followed by a discussion of price levels and price variation by carcass, primals and cuts across chains and time periods. Finally, the fourth section is devoted to a consideration of the price relationships which exist among the various cuts and chains.

Data Sources

The basic data used in the examination of beef pricing was that collected by the Ambler Pricing Service of Toronto. This data consist of weekly prices for the major beef cuts sold by five Toronto grocery chains. It is collected by Ambler directly from the five chains on the Saturday preceding the week in which the prices are to be in effect, and thus represents the expected price for the coming week. In some instances, however, the expected price is not the same as the actual price due to last minute decisions of the retailers to "special" particular items. Because of this, the basic Ambler data had to be corrected to take advertised specials into account. This was done by substituting the special prices obtained in the advertising audit for the Ambler prices in those weeks where differences were observed. As a result, the final pricing data file consisted of the actual prices paid by consumers for each cut, chain and week. Altogether 74 weeks of pricing information covering the period January 1974 through May 1975 were included in the analysis.

Although most of the pricing analysis was based on individual beef cuts, some of the analysis focused on primals and carcasses. As a result, a procedure to convert cut prices to primal and carcass values was needed. The procedure adopted in this study is that used by the Canadian Cattlemen's Association to break down a representative beef animal into 18 retail cuts. It uses the average cutability of a carcass of beef to determine the percentage weights of each retail cut. The weights are then applied to actual retail prices to produce a weighted average retail price for the carcass. The cuts and percentage weights used in this method are shown in Table 10.

Price Levels

The first step in the analysis of price levels involved determining the average carcass value (average retail price) by month for all chains over the period January 1974 to May 1975. The data plotted in Figure 5 show considerable variation in average carcass values throughout this period. For the most part, these values were relatively high during most of 1974 but declined sharply in the first four months of 1975 before recovering again in May. The reader will recall that the period of low prices in early 1975 corresponds with the period of high beef advertising by the major chains (See Figure 2).

Table 10: Name of Cuts and Percentage Weights Used in Calculating the Average Weighted Retail Price (Carcass value) for Beef.

Retail Cuts	Percentage Weights
Bottom Round Roast	3.0
Cross Rib Roast	4.3
Eye of Round Roast	1.6
Point Sirloin Roast/Steak	3.6
Prime Rib Roast	5.8
Rump Roast	1.3
Short Rib Roast	3.5
Top Round Roast	3.5
Shoulder Roast	9.8
Flank Steak	0.5
Porterhouse Steak	1.9
Rib Steak	2.5
Sirloin Steak	4.8
Wing Steak	1.9
Plate/Point Brisket	3.5
Shank Centre	1.1
Stewing Beef	4.3
Minced Beef/Chuck/Round	11.2

Source: Canadian Cattlemen's Association

Table 11: Average Retail Carcass Price for Beef by Chain, Toronto, January 1974 to May 1975.

Chain	Average Price	t-values obtained in testing hypotheses that mean values are equal				
		A and P	Loblaws	Food City	Dominion	Miracle
A and P	$1.50	-	11.71*	13.10*	17.33*	19.85*
Loblaws	1.42		-	0.75	6.95*	10.85*
Food City	1.42			-	8.25*	9.88*
Dominion	1.38				-	4.27*
Miracle	1.37					-

* Significant at $p < .05$

Source: Commission Estimate

As a second step in the analysis of price levels the average carcass values of beef were calculated and compared among the five chains. The results of this analysis, presented in Table 11, show substantial differences among the average carcass values of individual chains. A and P, with an average carcass value of $1.50/cwt., is the highest, while Miracle Food Mart, with an average carcass value of $1.37/cwt., is the lowest. Dominion, Loblaws and Food City are all slightly higher than Miracle Food Mart. A standard t-test was used to test for statistically significant differences between the carcass values of individual chains. Results of this analysis confirmed that all of the differences were significant with the exception of Loblaws and Food City, whose prices were both $1.42/lb. The monthly average carcass values for each of the five chains between January 1974 and May 1975 are shown in Appendix Table B.1.

The third step in the analysis of price levels involved calculating and comparing the average primal values for the five chains. As expected, the results in Table 12 show larger differences among the chains in primal values than in carcass values. While fairly sizeable differences were observed among chains for each of the five primal cuts, the largest difference was for ribs, between A and P and Miracle Food Mart. This difference of 30 cents was 10 cents higher than the next largest difference of 20 cents for sirloin, again between A and P and Miracle Food Mart. Differences of 19 cents between the highest and lowest chains were found for chucks and loins, while only a 12 cent difference was found for round primals.

A standard t-test was used to test for significant differences between the highest and lowest prices and the second highest and lowest prices for each primal. In every instance this procedure confirmed the existence of statistically significant differences.

The final step in the analysis of price levels involved calculating and comparing the different chains' prices of 18 individual beef cuts. These results are shown in Table 13.[4] In general these results show the variation among chains in cut prices to be smaller than the variation in primal prices. The largest differences observed between the highest and lowest prices were 37.6 cents for prime rib roast and 24.7 cents for short rib roast. In both cases the highest price chain was A and P while the lowest price chain was Miracle Food Mart. Overall, the average price difference between the highest and lowest chains was approximately 17 cents for roasts, 13 cents for steaks and 6 cents for the other cuts. In this analysis it was necessary to assume that each chain trims the cuts in a similar manner, that all beef was of the same grade, and that the products were available at the reported prices. To the extent that any of these assumptions are incorrect, it could affect the conclusions of the analysis.

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[4] Appendix Tables B.1. to B.19 provide more detailed information by showing the prices of the 18 individual beef cuts by chain for each of the 17 months in the analysis.

Table 12: Average Primal Prices at Retail for Beef by Chain, Toronto, January 1974 to June 1975.

Primal Cut	Mean Values					Price Difference[1] between		T-values Obtained in Testing Hypothesis That Mean Values are Equal	
	A and P	Dominion	Loblaws	Miracle	Food City	H-L	2nd H-L	H-L	2nd H-L
	$/lb.					$/lb.			
Round	1.90	1.78	1.81	1.80	1.83	.12	.05	11.98*	5.16*
Rib	1.61	1.35	1.39	1.31	1.42	.30	.11	15.91*	7.29*
Sirloin	1.95	1.86	1.77	1.75	1.78	.20	.11	20.92*	12.26*
Chuck	1.20	1.07	1.15	1.01	1.11	.19	.14	12.77*	7.69*
Loin	2.05	1.91	1.93	1.91	1.86	.19	.07	11.29*	2.84*

[1] H-L indicates difference between highest price and lowest price.
2nd H-L indicates difference between second highest price and lowest price.

* Significant at $p < .05$

Source: Commission Estimate

Table 13: Average Retail Prices for 18 Beef Cuts Adjusted for Specials, Toronto, January 1974 to May 1975.

	Mean Values					Price Difference[1] between		T-Values Obtained in Testing Hypothesis that Mean Values are Equal	
	A and P	Dominion	Loblaws	Miracle	Food City	H-L	2nd H-L	H-L	2nd H-L
	$/lb.					$/lb.			
Bottom Round Roast	1.81	1.67	1.71	1.72	1.71	.145	.057	7.45*	3.60*
Cross Rib Roast	1.33	1.20	1.31	1.19	1.23	.143	.124	12.93*	5.83*
Eye of Round Roast	2.19	2.07	2.09	2.05	2.13	.146	.088	14.34*	7.55*
Point Sirloin Roast and Steak	1.99	1.95	1.99	1.96	1.99	.044	.040	2.70*	3.83*
Prime Rib Roast	1.64	1.32	1.34	1.26	1.40	.376	.134	17.11*	7.46*
Rump Roast	1.66	1.56	1.60	1.58	1.58	.101	.041	6.69*	4.25*
Short Rib Roast	1.13	.92	.98	.88	1.00	.247	.120	18.80*	9.79*
Top Round Roast	1.94	1.83	1.85	1.83	1.89	.113	.059	9.56*	5.48*
Shoulder Roast	1.11	1.07	1.13	.98	1.10	.180	.147	9.29*	8.75*
Flank Steak	1.76	1.75	1.82	1.77	1.83	.087	.068	4.20*	3.38*
Porterhouse Steak	2.04	1.91	1.97	1.91	1.91	.134	.062	10.99*	3.58*
Rib Steak	1.54	1.42	1.51	1.41	1.47	.131	.104	7.25*	6.90*
Sirloin Steak	1.92	1.79	1.78	1.78	1.81	.141	.031	8.03*	1.55
Wing Steak	2.05	1.92	1.89	1.90	1.91	.159	.026	7.41*	1.30
Plate/Point Brisket	1.42	1.32	1.37	1.33	1.35	.101	.052	11.77*	8.15*
Shank Centre	1.03	1.01	1.04	1.00	1.02	.046	.028	6.10*	2.59*
Stewing Beef	1.39	1.35	1.35	1.36	1.37	.039	.060	2.59*	1.67
Minced Beef/Chuck/ Round	1.13	1.09	1.08	1.09	1.11	.045	.033	4.65*	3.11*

[1] H-L indicates difference between highest price and lowest price.
2nd H-L indicates difference between second highest price and lowest price

* Significant at $p < .05$

Source: Commission Estimates

As before, the standard t-test was used to test for significant differences between the highest and lowest prices and the second highest and lowest prices for each cut. Statistically significant differences were found for every cut when the highest and lowest prices were compared. In the case of the second highest and lowest price, however, no significant differences were found for sirloin steak, wing steak and stewing beef.

Price Variation

Emphasis in the preceding section was on analyzing the level of beef prices in the Toronto market and differences in this level among chains, cuts and time periods. In this section emphasis switches to a consideration of price variation. Two aspects of price variation in particular are investigated: the changes in individual cut prices over time and the relationship between chains in price changes for carcasses and primal cuts.

To explore the extent of individual cut price variation over time, coefficients of variation were computed by chain for each of the 18 retail cuts. The coefficient of variation is obtained by dividing the standard deviation by the mean and thus is a relative measure of variation which expresses the standard deviation as a percentage of the sample mean.

The coefficients of variation reported in Table 14 show major differences among cuts in price variability. The highest price variability was found for the minced beef cuts with a coefficient of variation of 15.1, while the lowest price variability observed was for plate/point brisket which had a coefficient of variation of only 5.5. In general, the steaks as a group exhibited the highest price variability, followed by the roasts and other beef cuts. When considered over all cuts (i.e. carcass values) very little difference was found among the chains in price variability. However, some very large differences are evident when comparing the coefficients of variation of individual cuts across the five chains. A good example of this can be found in the case of rib steaks, where the coefficient of variation for Dominion is more than twice as large as that for Loblaws.

Figures 6 and 7 have been prepared to graphically illustrate the week-to-week price changes associated with a high and low coefficient of variation. In Figure 6, the weekly prices of shoulder roast at A and P have been plotted over time. This cut has a fairly high coefficient of variation (13.1) and thus shows considerable week-to-week price level changes. Figure 7, on the other hand, illustrates the price behaviour of eye of round roast at A and P during the same period. The coefficient of variation of this cut (5.7) is substantially lower than shoulder roast, and as Figure 7 illustrates, its week-to-week price level changes are much smaller and less frequent. As a matter of fact, there are a substantial number of weeks in which the price remains the same as in the preceding week.

In addition to simply looking at the price variation of cuts over time the relationship between chains in price changes must also be considered. The question here is to what extent do chains follow similar patterns in their pricing decisions. To investigate this question, correlation coefficients were computed between chains for carcass values and five primal cuts. These correlation coefficients are shown in Table 15.

Table 14: Coefficients of Variation[1] for the Prices of 18 Retail Cuts of Beef, Toronto, January 1974 to May 1975.

Retail Cuts	All Chains	A and P	Dominion	Loblaws	Miracle	Food City
Bottom Round Roast	9.5	10.1	10.7	9.3	7.4	10.3
Cross Rib Roast	9.8	7.7	11.4	6.6	11.2	12.2
Eye of Round Roast	5.7	4.7	5.6	5.8	5.8	6.9
Point Sirloin Roast and Steak	7.1	8.0	7.3	6.9	6.6	6.8
Prime Rib Roast	12.8	14.8	12.4	13.2	14.8	8.9
Rump Roast	7.1	7.6	8.0	6.1	6.2	7.4
Short Rib Roast	12.7	10.7	12.9	11.3	15.3	13.4
Top Round Roast	6.8	6.0	7.3	7.0	7.0	6.9
Shoulder Roast	13.1	14.2	11.0	12.4	16.9	11.1
Flank Steak	6.9	7.1	10.4	4.6	6.4	6.2
Porterhouse Steak	12.3	10.2	12.5	12.6	13.0	13.2
Rib Steak	13.2	14.1	17.7	8.3	13.6	12.2
Sirloin Steak	13.2	10.5	13.7	13.7	14.2	13.7
Wing Steak	12.5	10.0	12.6	14.0	12.9	13.1
Plate/Point Brisket	5.5	6.7	5.7	4.9	5.4	4.8
Shank Centre	6.8	7.4	8.3	5.3	7.9	5.1
Stewing Beef	7.4	9.0	8.8	8.0	4.8	6.5
Minced Beef/Chuck/Steak	15.1	14.7	16.0	15.5	15.1	14.0
Carcass	6.7	7.2	6.7	6.2	7.5	6.1
	9.9	9.6	10.7	9.2	10.2	9.6

[1] The coefficients of variation are calculated from the information in Appendix tables B.1 through B.19.

Source: Commission Estimates.

FIGURE 6

Weekly Retail Price of Shoulder Roast at A&P, Toronto
74 Weeks, January 1974 to May 1975

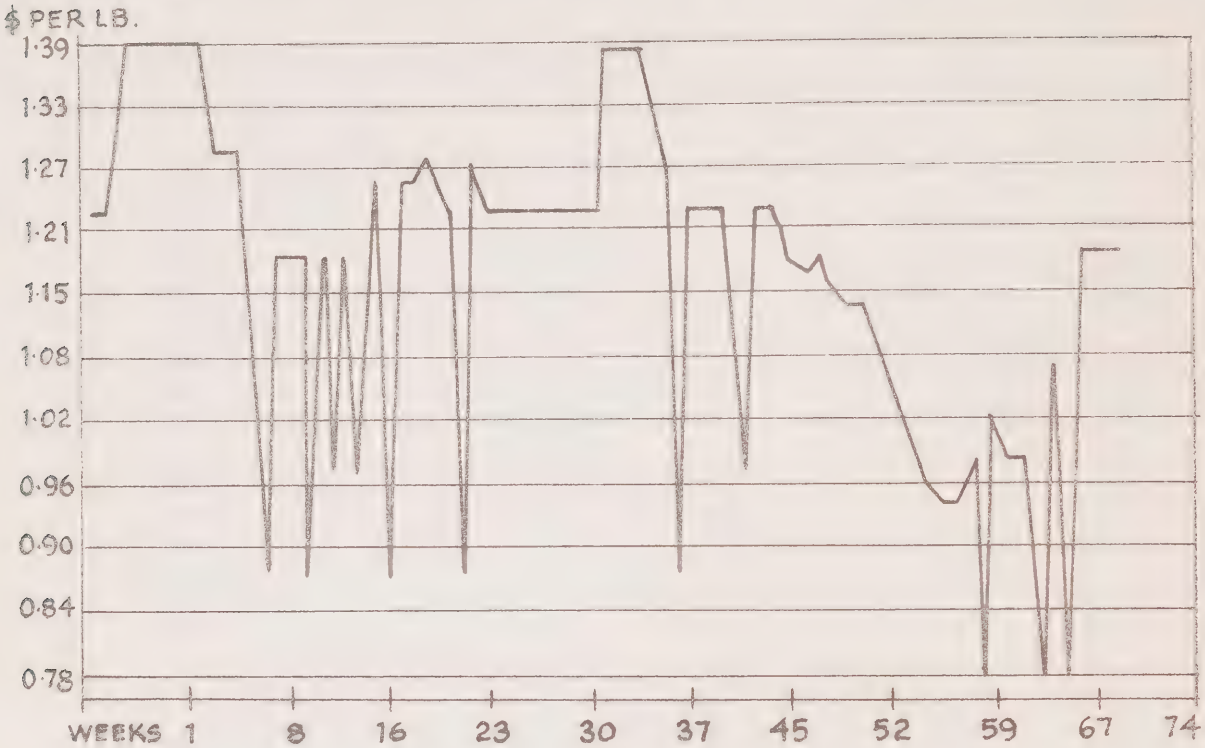

FIGURE 7

Weekly Retail Price of Eye of Round Roast at A&P, Toronto
74 Weeks, January 1974 to May 1975

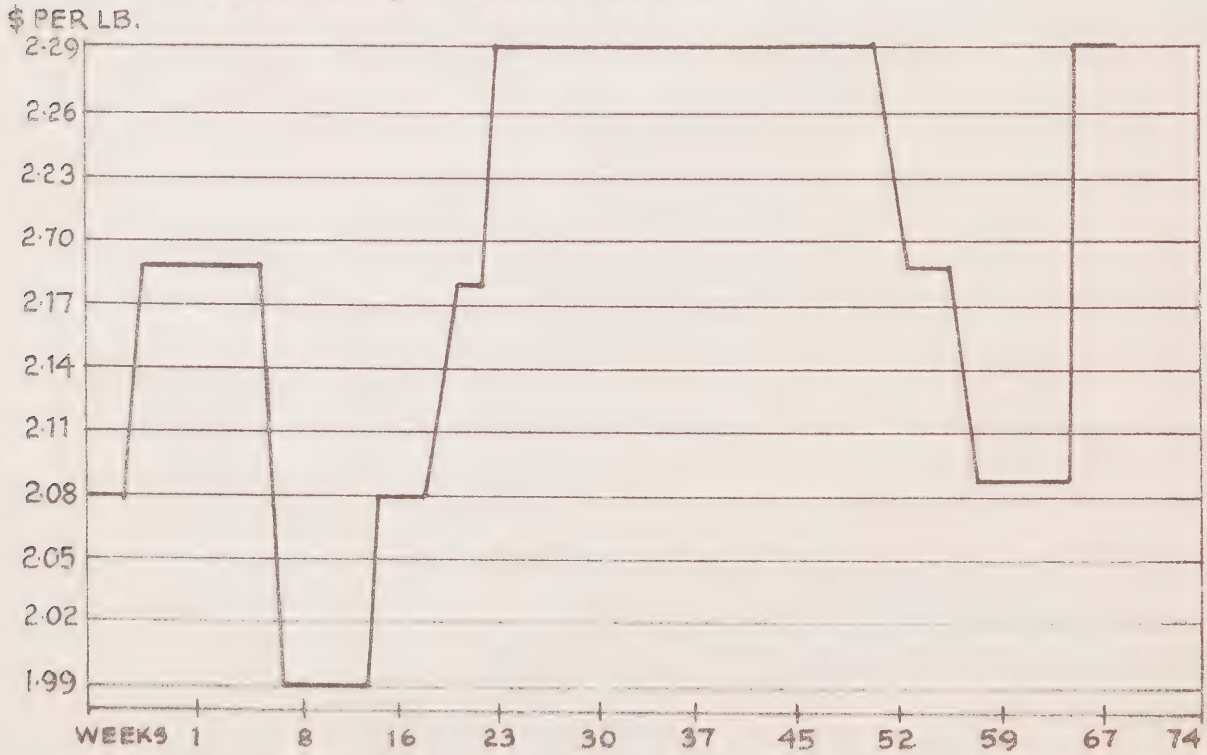

Table 15: Correlation Coefficients Between Chains for Carcasses and Primal Cuts, Toronto, January 1974 to May 1975.

	A and P	Dominion	Loblaws	Miracle	Food City
Carcass					
A and P	-	.845	.825	.851	.881
Dominion		-	.896	.947	.906
Loblaws			-	.917	.848
Miracle				-	.888
Food City					-
Round					
A and P	-	.732	.614	.715	.646
Dominion		-	.814	.911	.748
Loblaws			-	.880	.740
Miracle				-	.825
Food City					-
Rib					
A and P	-	.679	.758	.702	.562
Dominion		-	.879	.919	.699
Loblaws			-	.850	.682
Miracle				-	.691
Food City					-
Sirloin					
A and P	-	.863	.882	.894	.884
Dominion		-	.980	.920	.864
Loblaws			-	.949	.898
Miracle				-	.899
Food City					-
Chuck					
A and P	-	.582	.563	.609	.517
Dominion		-	.727	.843	.742
Loblaws			-	.744	.657
Miracle				-	.684
Food City					-
Loin					
A and P	-	.918	.809	.919	.825
Dominion		-	.826	.893	.815
Loblaws			-	.829	.658
Miracle				-	.761
Food City					-

Source: Commission estimates

The first part of Table 15 reports the correlation coefficients between the five major Toronto chains for carcass values. All of these correlation coefficients are seen to be fairly high, and there is very little difference between the coefficients for pairs of chains. This result indicates that at the carcass level the week-to-week price changes by these retailers are fairly similar even though the price levels are different.

The next five sections of Table 15 show the correlation coefficients between the five chains for the round, rib, sirloin, chuck and loin primals. While most of these coefficients are also fairly high, it is obvious that, with the exception of the sirloin primal, they are lower than the corresponding values for the carcasses. This implies that the weekly price changes for primals are not as similar as they are for the basic carcass. Thus, in pricing beef, it appears that retailers follow somewhat different practices at the primal level, but the combined effect of these different practices yield a fairly similar result at the carcass level.

The correlation coefficients between chains for carcasses and primals can also be analyzed to determine which chains tend to follow similar and dissimilar pricing patterns. In reviewing the data in Table 15, the highest coefficients for carcasses and three of the primals seem to be those for Dominion and Miracle Food Mart. This implies that the pricing practices of these chains for these items tend to be very similar. On the other hand, the coefficients between Food City and most of the other chains tend to be lower in most cases indicating a relatively low level of correspondence between the price changes of Food City and the other chains.

Correlation coefficients between chains for individual cut prices were also computed and found to be smaller than those reported for primals and carcasses. In general, the correlation coefficients for steaks and minced beef are considerably higher than those for other beef cuts, implying that steak and minced beef prices move more closely across chains than other beef prices.

Price Relationships

The final step in the analysis of beef pricing was to look at the price relationships existing among the various cuts and chains. To do this a statistical model was developed which relates the price of the 18 cuts at each chain to the carcass value for that chain, the advertising of the cut, and a seasonality factor. The specific model which was developed and estimated is:

$$y^{M}_{i,j} = a + bx^{M}_{i,j} + cx^{M}_{i,j} + dx_{k}$$

where y_{ij} = Price of cut i in chain j during week M

x_{ij} = Average retail carcass value for chain j during week M

x_{ij} = A zero-one variable indicating whether cut i was advertised by chain j during week M

x_k = A set of seasonal zero-one variables where: k = 1 = January; k= 2 = February;.... ; k= 11= November

i = Beef cuts, i = 1,2,.....,18

j = Retail chains, j = 1,2...,5

k = Months, k - 1,2,....,11

Detailed results of this analysis are provided in Appendix Tables C.1 to C.18. For each cut and chain these tables show the coefficient estimates, student "t" values, R^2 and the Durbin-Watson statistic. To facilitate discussion, summary tables have been prepared which highlight the results. These summary tables (16 to 20) show the constant, the coefficient estimates for carcass price and specials, and the signs of the seasonal dummy variables for each cut sold by each of the five chains.

The interpretation of the results of this analysis is fairly straightforward. For each cut, the coefficient on the carcass price shows the amount by which the price of that cut is changed given a $1.00 change in the carcass price. For example, in the case of bottom round roast at A and P (Table 16) a $1.00 increase in the carcass price would be associated with a 56 cent increase in the price of bottom round roast. The coefficient attached to the specials dummy variable shows the amount by which the price of the cut changes when it is "specialed".[5] For bottom round roast at A and P, this coefficient is -.42, indicating that on the average, when the cut is "specialed", its price is 42 cents lower than when it is not on "special". Finally, the signs for the seasonal dummy variables show the months in which the price for the cut is above or below the price charged in December. Again in the case of bottom round roast at A and P, the negative signs for March, April, May, June and November indicate that the price of this cut is lower in these months than in December.

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[5] The coefficient on the "specials" dummy variable should be interpreted carefully since some chains advertised certain cuts very infrequently. The number of times each cut was advertised by each chain is indicated in Tables A.7 through A.43. To provide an accurate estimate of the effect of a special a cut should have been advertised at least four or five times.

Table 16: Price Relationships for 18 Cuts of Beef at A and P, Toronto, January 1974 to May 1975

	Estimated Coefficients			Signs of Dummy Variables										
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Bottom Round Roast	1.05	0.56	-0.42			-	-	-	-					-
Cross Rib Roast	0.33	0.68	-0.11	+	+	+			-	-	-		+	
Eye of Round Roast	1.96	0.20	-0.06	-		-	-	-	-					
Point Sirloin	1.67	0.26	-0.34	-		-	-	-	-		+			
Prime Rib Roast	-0.13	1.24				-	-	-	-					+
Rump Roast	-0.16	1.15	-0.15	+	+	+	+	+					-	
Short Rib Roast	0.10	0.70	-0.16	+	+					-	-		+	
Top Round Roast	1.48	0.32	-0.27				-		-	-		+	+	
Shoulder Roast	-0.28	0.99	-0.22								-		+	-
Flank Steak	1.61	0.18	-0.15	-	-	-	-	-	-	-				
Porterhouse Steak	1.58	0.36	-0.05	-	-	-	-				+			
Rib Steak	-0.08	1.16	-0.25		-	-	-	-	-					+
Sirloin Steak	1.51	0.28	-0.10		-	-	-			+	+	+		
Wing Steak	1.69	0.28		-	-	-	-			+	+			
Plate/Point Brisket	0.14	0.87	0.05							-	-	-	-	-
Shank Centre	0.21	0.50	-0.09	+	+	+	+	+	+					
Stewing Beef	0.60	0.55	-0.19				+							
Minced Beef	-0.20	0.94	-0.14						+		-	-	-	

Table 17: Price Relationships for 18 Cuts of Beef at Dominion, Toronto, January 1974 to May 1975

	Estimated Coefficients			Signs of Dummy Variables										
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Bottom Round Roast	0.17	0.56	-0.42			-	-	-	-					-
Cross Rib Roast	0.33	0.68	-0.11	+	+	+			-	-	-		+	
Eye of Round Roast	1.63	0.32				-	-	+	-				+	
Point Sirloin	1.12	0.63	-0.18	-		-	-				+			
Prime Rib Roast	-0.15	1.07	-0.02	-	-					+	+			+
Rump Roast	0.21	1.00	-0.12		+							-	-	
Short Rib Roast	-0.26	0.89				-	-	-	-					-
Top Round Roast	0.72	0.82	-0.22			-	-		-					
Shoulder Roast	-0.28	0.99	-0.22								-		+	-
Flank Steak	1.17	0.43	-0.92				-							+
Porterhouse Steak	0.38	1.15	-0.23		-	-	-			+	+	+		
Rib Steak	-0.51	1.48			-	-	-	-				-		-
Sirloin Steak	1.08	0.56	-0.17	-	-	-	-			+	+	+		
Wing Steak	0.32	1.20	-0.22		-	-	-			+	+	+		
Plate/Point Brisket	0.48	0.62	-0.01		+				-	-	-	-		+
Shank Centre	0.19	0.59			+			-						+
Stewing Beef	0.76	0.46	-0.30			-	-	-			-			
Minced Beef	-1.17	1.52	-0.01	+	+	+	+	+	+					

Table 18: Price Relationships for 18 Cuts of Beef at Loblaws, Toronto, January 1974 to May 1975.

	Estimated Coefficients			Signs of Dummy Variables										
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Bottom Round Roast	0.75	0.72	-0.21			-	-							
Cross Rib Roast	0.32	0.71	-0.11		+				-	-	-			
Eye of Round Roast	1.10	0.71	-0.03						-					
Point Sirloin	0.76	0.85	-0.05	-						+	+	+		
Prime Rib Roast	0.00	0.96	-0.12			-	-			+	+			+
Rump Roast	0.76	0.60	-0.19				-	+					-	
Short Rib Roast	-0.38	0.98	-0.08		+			-	-	-	-			
Top Round Roast	0.69	0.84	-0.09	-		-	-							
Shoulder Roast	0.07	0.78	-0.28						-	-	-	-		
Flank Steak	1.87			-	-	-	-		-					
Porterhouse Steak	0.95	0.81	-0.22	-	-	-	-		-		+	+		
Rib Steak	0.92	0.50	-0.08	+	-	-	-	-	-			-		
Sirloin Steak	1.02	0.60	-0.24	-	-	-	-			+	+	+		
Wing Steak	1.48	0.44	-0.35	-	-	-	-	-	-			+		
Plate/Point Brisket	0.60	0.58	0.05	-					-	-	-	-	-	-
Shank Centre	0.32	0.51	-0.06				+		-	-				
Stewing Beef	0.20	0.83	-0.08			+								
Minced Beef	-1.19	1.50		+	+	+	+	+	+					

Table 19: Price Relationships for 18 Cuts of Beef at Miracle, Toronto, January 1974 to May 1975

	Estimated Coefficients			Signs of Dummy Variables										
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Bottom Round Roast	0.61	0.83					-							
Cross Rib Roast	-0.42	1.15	-0.09	+	+	+	+			-	-		+	
Eye of Round Roast	1.44	0.47				-	-		-					
Point Sirloin	1.30	0.49		-		-	-			+	+	+		
Prime Rib Roast	-0.21	1.13	-0.04	-	-	-	-			+	+	-		
Rump Roast	0.59	0.75	-0.05		+			+				-	-	
Short Rib Roast	-0.76	1.17	-0.07	+	+	+	+			-	-			
Top Round Roast	0.76	0.80					-		-					
Shoulder Roast	-0.76	1.27	-0.13	+	+	+	+			-	-			
Flank Steak	1.48	0.23		-		-	-		-					+
Porterhouse Steak	0.92	0.83	-0.19	-	-	-	-	-	-		+			
Rib Steak	0.09	1.05	-0.09	-	-	-	-	-						
Sirloin Steak	0.91	0.68	-0.19	-	-	-	-			+	+	+		
Wing Steak	0.67	0.95		-	-	-	-			+	+	+		
Plate/Point Brisket	0.66	0.50	0.01	-			-		-	-	-	-		
Shank Centre	0.37	0.45			+			-			+	+	+	+
Stewing Beef	0.65	0.54			+		-	-	-	-	-			
Minced Beef	-0.09	0.91	-0.23			+					-	-		

Table 20: Price Relationships for 18 Cuts of Beef at Food City, Toronto, January 1974 to May 1975.

	Estimated Coefficients			Signs of Dummy Variables										
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Bottom Round Roast	0.54	0.85	-0.47				-							
Cross Rib Roast	-0.15	0.98	-0.23	+	+	+	+		-	-	-			
Eye of Round Roast	1.17	0.68					-				+			
Point Sirloin	1.57	0.33	-0.14	-		-	-	-	-		+	+		
Prime Rib Roast	1.31	0.09	-0.17			-	-		-		+	+		
Rump Roast	0.75	0.60	-0.21				-					+		
Short Rib Roast	-0.51	1.11	-0.16					-	-	-	-	-		
Top Round Roast	1.00	0.64	-0.54				-		-					
Shoulder Roast	-0.52	1.15	-0.13		+	+	+			-	-			
Flank Steak	1.77	0.02					-			+	+	+	+	
Porterhouse Steak	0.66	0.95	-0.30	-	-	-	-				+			
Rit Steak	-0.73	1.56	-0.19											
Sirloin Steak	1.27	0.49	-0.19	+	-	-	-	-	-	+	+			
Wing Steak	0.72	0.90	-0.32		-	-	-				+			
Plate/Point Brisket	0.26	0.78	0.06	-		+	+			-	-	-	-	
Shank Centre	0.41	0.42		+	+	+								
Stewing Beef	0.18	0.84						-			-			
Minced Beef	-1.17	1.52	-0.01	+	+	+	+	+	+					

The coefficient estimates for the carcass price provide interesting information on the pricing policies of the major chains. As mentioned earlier these estimates show the amount by which the cut price changes given a $1.00 change in the carcass value. Thus these estimates clearly show the manner in which prices are set by the retailers. For example, in the case of A and P, the prices of prime rib roast, rump roast and rib steak are all increased proportionately more than the carcass price as it increases. On the other hand, cuts such as eye of round roast and flank steak show very little response to changes in carcass values. When considered across all chains, certain cuts seem to stand out in the extent to which their price increases given an increase in carcass values. Those cuts for which the response is uniformly high are:

Cross Rib Roast
Prime Rib Roast
Short Rib Roast
Rump Roast
Porterhouse Steak
Rib Steak
Wing Steak
Minced Beef/Chuck/Round

The signs associated with the seasonal dummies also provide interesting information on the pricing practices of the major chains. For example, in the case of A and P, these signs clearly show that all of the steaks are priced lower in the winter months than in the other months of the year, while the prices of cross rib roasts, rump roasts, short rib roasts and shank centre are higher during this period.

Figure 8 illustrates the seasonal pricing pattern, across chains, for three beef cuts; cross rib roast, porterhouse steak and minced beef. The upper section of figure 8 indicates that four chains charge less in July and August than in December.

In the middle section of figure 8, the seasonal pricing pattern is shown for porterhouse steak. Porterhouse steak is priced lower in January through April and higher in August. In general the seasonality for all steaks tends to be similar to that for porterhouse. The seasonal pricing patterns for other beef cuts show considerably more variation across chains.[6]

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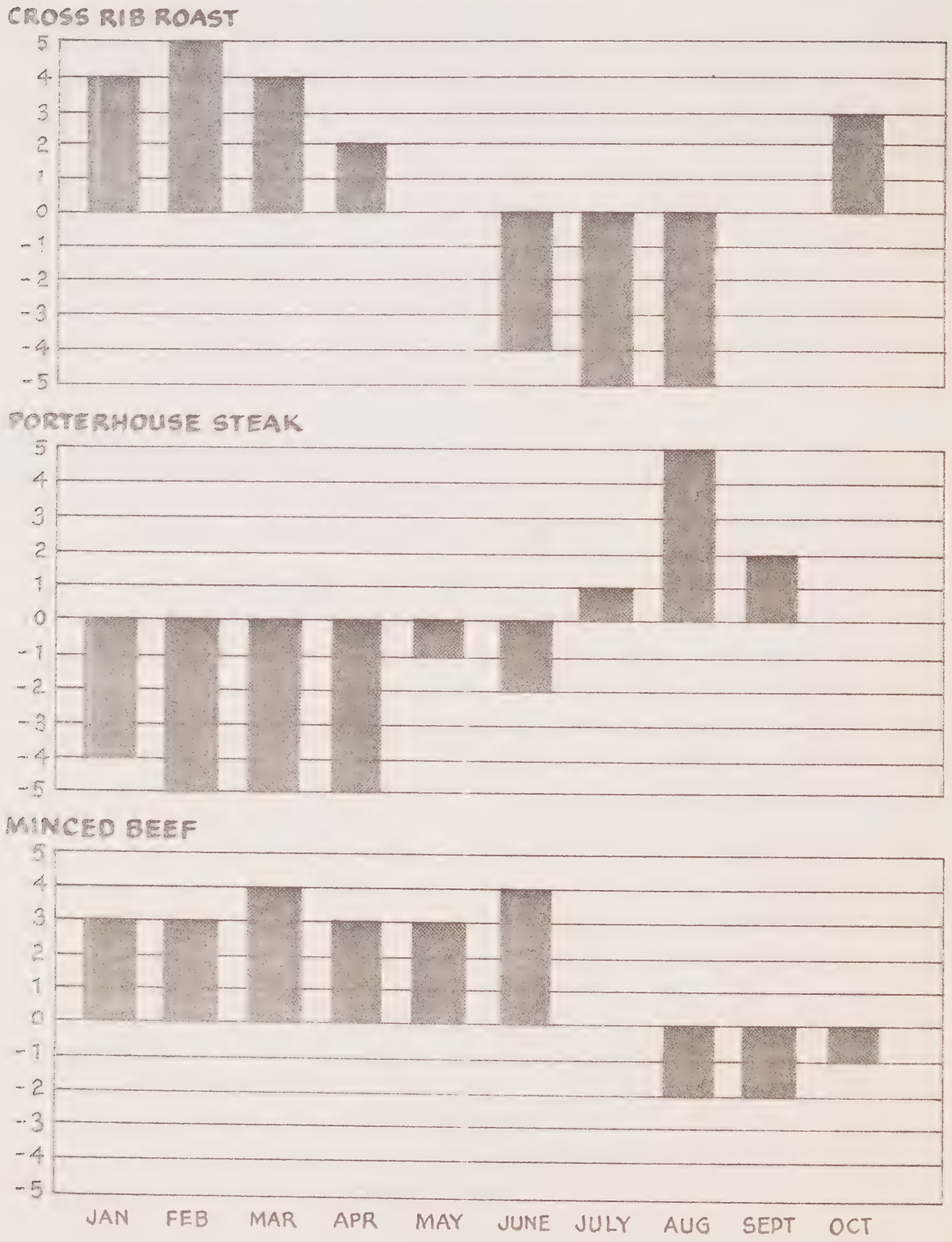
[6] Serial correlation was a serious problem in many of the equations. Correcting for serial correlation using the Hildreth-Lu scanning procedure produced results somewhat different from the OLS estimates. In general the corrected equations showed the seasonal dummies to be less significant than indicated in the OLS analysis. For this reason these coefficients cannot be considered as powerful as the "t" tests indicate.

FIGURE 8

Seasonal Pricing Patterns for Cross Rib Roast, Porterhouse Steak and Minced Beef.



4. Demand Analysis

The final objectives for this research were to measure retail beef sales by chain in the Toronto market and, using this promotion, to estimate retail demand functions for total beef sales and sales of individual beef cuts. This chapter reports on the results of this analysis.

Beef Sales in Toronto

Information on beef sales in Toronto was obtained through a survey of the five leading chains serving this market. In this survey the chains were asked to supply data on weekly shipments of beef to all stores in their Toronto sales regions for the period January 1974 through June 1975. In each case the chains were requested to breakdown their total beef sales into carcasses, front quarters, hind quarters, ribs, chucks, hips, loins and manufacturing boneless beef. All data was reported in hundredweight per week.

The data received from the retailers varied widely in its quality. The data from three retail chains appeared to be complete and accurate. Unfortunately, data from the other two chains was either incomplete or obviously inaccurate. In one of these cases the data consisted only of total beef sales and was not broken down by carcasses, quarters and primals. In the other case monthly data had been used to generate weekly average sales.

Aggregate Demand Analysis

The first step in the analysis of retail beef demand was to estimate aggregate demand functions for each of the five chains. In these equations the dependent variable was total weekly beef sales for the chain, while the independent variables were: (1) own beef prices (carcass values), (2) competitors' beef prices (carcass values), (3) own substitute prices (pork, chicken, veal and lamb),[7] (4) competitors' substitute prices, (5) own advertising (beef, pork, other meats), (6) competitors' advertising, and (7) seasonal dummies.

The demand equations were estimated using the multiple regression subroutine of SPSS (Statistical Package for the Social Sciences).

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7 The actual substitute prices used were: (1) pork-loin centre cut roast or picnic roast, (2) veal loin chop or roast, (3) leg of lamb (shank half), and (4) chicken-whole fresh chicken $3\frac{1}{2}$ to 5 lb.

The independent variables included in each equation were:

Equation 1

1. price of beef at the chain
2. price of beef at competitors
3. number of beef ads at the chain
4. relative price of pork, and
5. all other statistically significant variables ($p < .20$)

Equation 2

1. price of beef at the chain
2. price of beef at competitors
3. number of beef ads at the chain
4. relative price of pork
5. number of pork ads at the chain
6. number of other ads at the chain, and
7. all other statistically significant variables ($p < .20$)

Equation 3

1. price of beef at the chain
2. price of beef at competitors
3. number of beef ads at the chain
4. relative price of pork
5. number of pork ads at the chain
6. number of other ads at the chain
7. number of beef ads at competitors
8. number of pork ads at competitors
9. number of other ads at competitors, and
10. all other statistically significant variables ($p < .20$)

In the case of Dominion and Miracle Food Mart, a fourth equation was estimated because of problems of insignificance on the own beef price variable when the price of beef at competitors was entered into the equation.

The equations for each chain are presented in Table 21 along with the R^2, Durbin-Watson statistic and the standard error for each variable. Constant terms are not provided in order to protect the confidentiality of the data.

Those variables which are starred are significant at $p < .05$ for a two-tailed test and $p < .025$ for a one-tailed test. The symbols used to identify variables are defined in the following manner:

Q	Weekly quantity of beef received in all stores
BP	Beef price (carcass value)
RPP	Relative price of pork
RPL	Relative price of lamb
BA	Number of beef ads
PA	Number of pork ads
OA	Number of other meat ads
AP	A and P
DM	Dominion
LL	Loblaws
MM	Miracle Food Mart
FC	Food City
C	Competitors

Demand Analysis for A and P. In the first two equations for A and P only three independent variables were found to be significant. These variables were the beef price at A and P, the average beef price at all competitors, and the February dummy variable. The signs associated with the price variables were negative for the own price and positive for competitors' prices. This result was expected and implies that as A and P increases their beef price and/or competitors decrease their beef prices, the quantity of beef sold by A and P decreases. The negative sign on the coefficient of the Febraury dummy implies that beef sales at A and P were lower than normal during this month.

In addition to the two price variables and the one seasonal dummy, the coefficient for beef advertising at competitors is also significant in Equation 3. The sign of this coefficient is positive indicating that as competitors increase their beef advertising, sales of beef at A and P increase. This result was not expected and is contrary to the hypothesis that beef ads at competitors should be negatively related to own beef sales.

In all three of the equations for A and P the R^2 is fairly low--in the range of .42 to .44.

Demand Analysis for Dominion. The results of the demand analysis for Dominion appear to be better than those for A and P principally because of the larger number of significant independent variables found to be related to beef sales. In equation 1, eight independent variables were found to be significant, and each was found to have the correct sign. This equation shows that the beef price of Dominion is negatively related to beef sales while the relative price of pork[8] is positively related to beef sales. In the case of the own advertising variables the number of Dominion beef ads and other meat ads were found to be positively related to total beef sales, while the number of Dominion pork ads were related inversely. The direction of the relationship between beef sales and other Dominion meat ads was somewhat surprising, but apparently reflects the fact that other meat advertising

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8 Relative price of pork $= \frac{\text{Own pork price}}{\text{Competitors' pork price}}$

stimulates sales of all meats, including beef, instead of stimulating the sales of other meats at the expense of beef. Only one variable associated with the advertising of competitors entered into the first equation. This variable was the number of competitors' beef ads, and as expected, was found to be negatively related to Dominion's beef sales.

The results of the other three equations for Dominion were similar to those for the first equation except that the inclusion of competitors' beef prices in Equations 3 and 4 caused the own beef price coefficient to lose its significance. This is caused by the high correlation between these variables.

Demand Analysis for Loblaws and Miracle Food Mart. The results of the demand analysis for Loblaws and Miracle Food Mart were virtually identical in the sense that the only significant independent variable was own beef price. In both cases the sign of this variable was negative as expected.

Demand Analysis for Food City. The equations for Food City show significant positive relationships between total Food City beef sales and competitors' beef prices, the relative price of lamb, and Food City's beef ads. In addition, negative relationships were found for Food City beef prices and other meat advertising of competitors.

The demand analysis for Food City was the only place where the price of a substitute product other than pork was significantly related to beef sales. In this case the relative price of lamb was found to have a strong positive relationship to beef sales. This implies that as the price of lamb increases at Food City, or decreases at some competitor, the quantity of beef sold at Food City increases.

As in the case of the other chains, the R^2 associated with the Food City demand equations is relatively low - - approximately .60. Although this implies that the equations explain only 60 percent of the variation in the dependent variable, this may be a little misleading because of the nature of the quantity data. The quantity data received from all of the chains relates to the quantity of beef shipped to all stores in each week, and not the actual quantity sold. As a result, the fact that some of the beef shipped is not sold, but held in inventory until the next week, obviously affects the results and causes the R^2 to be lower than it otherwise would be. This point was verified by checking the residuals associated with each equation. In every case where the predicted value was substantially different from the actual value it was noted that this followed a week in which an unusually large shipment of beef had been made. This, of course, leads one to suspect that some of the large shipment had been carried over for sale in the following week causing the effect noted above.

Aggregate Elasticities. Using the coefficient estimates shown in Table 21, elasticities were computed for all of the independent variables included in the demand analysis. These elasticities are shown in Table 22.

Table 21: Retail Demand Equations for Toronto Chains

A and P

Equation 1 $R^2 = .42$ D.W. = 1.98

$$Q_{AP} = - 25.304\ BP^*_{AP} + 26.582\ BP^*_{C} + 6.878\ RPP_{AP} + 0.082\ BA_{AP}$$
$$(7.713) \qquad (8.716) \qquad (7.872) \qquad (0.074)$$

$$- 0.155\ OA_{AP} + 0.056\ BA_{C} - 3.797\ FEB^* - 1.495\ MAY$$
$$(0.105) \qquad (0.032) \qquad (0.469) \qquad (0.930)$$

Equation 2 $R^2 = .43$ D.W. = 2.01

$$Q_{AP} = - 24.944\ BP^*_{AP} + 27.057\ BP^*_{C} + 6.419\ RPP_{AP} + 0.109\ BA_{AP}$$
$$(7.782) \qquad (8.804) \qquad (7.957) \qquad (0.089)$$

$$+ 0.049\ PA_{AP} - 0.126\ OA_{AP} + 0.057\ BA_{C} - 4.001\ FEB^* - 1.573\ MAY$$
$$(0.089) \qquad (0.117) \qquad (0.032) \qquad (0.911) \qquad 0.945$$

Equation 3 $R^2 = .44$ D.W. = 2.03

$$Q_{AP} = - 24.612\ BP^*_{AP} + 27.574\ BP^*_{C} + 4.848\ RPP_{AP} + 0.118\ BA_{AP}$$
$$(7.969) \qquad (8.957) \qquad (8.384) \qquad (0.092)$$

$$+ 0.051\ PA_{AP} - 0.131\ OA_{AP} + 0.065\ BA^*_{C} + 0.031\ PA_{C} - 0.015\ OA_{C}$$
$$(0.089) \qquad (0.137) \qquad (0.033) \qquad (0.036) \qquad (0.037)$$

$$- 4.119\ FEB^* - 1.663\ MAY$$
$$(0.962) \qquad (0.978)$$

Table 21: (continued)

DOMINION

Equation 1 $R^2 = .55$ D.W. = 2.24

$$Q_{DM} = \underset{(27.795)}{- 121.807\ BP^*_{DM}} + \underset{(127.407)}{258.050\ RPP^*_{DM}} + \underset{(0.873)}{3.269\ BA^*_{DM}} - \underset{(1.125)}{3.168\ PA^*_{DM}}$$

$$+ \underset{(0.681)}{1.933\ OA^*_{DM}} - \underset{(0.354)}{0.833\ BA^*_{C}} - \underset{(7.762)}{22.139\ JAN^*} - \underset{(8.657)}{19.323\ FEB^*} - \underset{(9.428)}{16.115\ AUG}$$

Equation 2 $R^2 = .56$ D.W. = 2.00

$$Q_{DM} = \underset{(32.539)}{- 120.172\ BP^*_{DM}} + \underset{(138.293)}{248.462\ RPP_{DM}} + \underset{(0.921)}{3.345\ BA^*_{DM}} - \underset{(1.173)}{2.946\ PA^*_{DM}}$$

$$+ \underset{(0.708)}{1.759\ OA^*_{DM}} - \underset{(0.309)}{0.093\ BA_{C}} - \underset{(0.420)}{0.809\ PA_{C}} + \underset{(0.309)}{0.339\ OA_{C}} - \underset{(8.295)}{19.952\ JAN^*}$$

$$- \underset{(8.839)}{19.294\ FEB^*} - \underset{(9.560)}{14.517\ AUG}$$

Equation 3 $R^2 = .55$ D.W. = 2.21

$$Q_{DM} = \underset{(93.874)}{- 85.953\ BP_{DM}} - \underset{(93.474)}{37.401\ BP_{C}} + \underset{(133.331)}{243.465\ RPP_{DM}} + \underset{(0.890)}{3.326\ BA^*_{DM}}$$

$$- \underset{(1.210)}{3.339\ PA^*_{DM}} + \underset{(0.696)}{1.981\ OA^*_{DM}} - \underset{(0.362)}{0.808\ PA^*_{C}} - \underset{(8.051)}{21.362\ JAN^*} - \underset{(8.718)}{19.418\ FEB^*}$$

$$- \underset{(9.653)}{15.409\ AUG}$$

Table 21: (continued)

Equation 4 $R^2 = .56$ D.W. = 2.23

$$Q_{DM} = \underset{(94.708)}{- 77.794\ BP_{DM}} \underset{(95.452)}{- 45.518\ BP_C} \underset{(142.224)}{+ 234.467\ RPP_{DM}} \underset{(0.948)}{+ 3.447\ BA^*_{DM}}$$

$$\underset{(1.241)}{- 3.129\ PA^*_{DM}} \underset{(0.723)}{+ 1.819\ OA^*_{DM}} \underset{(0.316)}{- 0.119\ BA_C} \underset{(0.423)}{- 0.795\ PA_C} \underset{0.311}{+ 0.345\ OA_C}$$

$$\underset{(8.535)}{- 19.108\ JAN^*} \underset{(8.894)}{- 19.290\ FEB^*} \underset{(9.849)}{- 13.592\ AUG}$$

LOBLAWS

Equation 1 $R^2 = .53$ D.W. = 1.61

$$Q_{LL} = \underset{(14.850)}{- 44.350\ BP^*_{LL}} \underset{(14.261)}{+ 22.921\ BP_C} \underset{(37.446)}{- 29.561\ RPP_{LL}} \underset{(0.081)}{+ 0.094\ BA_{LL}}$$

$$\underset{(0.134)}{+ 0.245\ OA_{LL}} \underset{(0.059)}{+ 0.098\ BA_C} \underset{(1.971)}{- 7.134\ JUL^*} \underset{(1.889)}{- 2.857\ AUG}$$

Equation 2 $R^2 = .53$ D.W. = 1.60

$$Q_{LL} = \underset{(14.965)}{- 44.325\ BP^*_{LL}} \underset{(14.453)}{+ 22.739\ BP_C} \underset{(38.045)}{- 28.988\ RPP_{LL}} \underset{(0.082)}{+ 0.092\ BA_{LL}}$$

$$\underset{(0.082)}{- 0.010\ PA_{LL}} \underset{(0.136)}{+ 0.246\ OA_{LL}} \underset{(0.061)}{+ 0.099\ BA_C} \underset{(1.986)}{- 7.129\ JUL^*} \underset{(1.906)}{- 2.867\ AUG}$$

Equation 3 $R^2 = .53$ D.W. = 1.61

$$Q_{LL} = \underset{(15.425)}{- 43.734\ BP^*_{LL}} \underset{(14.733)}{+ 21.926\ BP_C} \underset{(38.692)}{- 29.990\ RPP_{LL}} \underset{(0.087)}{+ 0.100\ BA_{LL}}$$

Table 21: (continued)

$$- 0.003\ PA_{LL} + 0.237\ OA_{LL} + 0.092\ BA_{C} - 0.029\ PA_{C} - 0.029\ OA_{C}$$
$$(0.086) \qquad (0.145) \qquad (0.063) \qquad (0.070) \qquad (0.059)$$

$$- 7.086\ JUL^{*} - 2.968\ AUG$$
$$(2.038) \qquad (1.974)$$

MIRACLE FOOD MART

Equation 1 $R^2 = .60$ D.W. = 1.55

$$Q_{MM} = - 24.495\ BP^{*}_{MM} + 13.040\ RPP_{MM} - 0.050\ BA_{MM} + 3.757\ MAR^{*}$$
$$(3.459) \qquad (15.719) \qquad (0.098) \qquad (1.119)$$

$$- 4.253\ JUL^{*}$$
$$(1.427)$$

Equation 2 $R^2 = .61$ D.W. = 1.51

$$Q_{MM} = - 11.139\ BP_{MM} - 15.189\ BP_{C} + 14.401\ RPP_{MM} + 0.015\ BA_{MM}$$
$$(12.425) \qquad (13.574) \qquad (15.737) \qquad (0.114)$$

$$+ 4.090\ MAR^{*} - 4.080\ JUL^{*}$$
$$(1.156) \qquad (1.433)$$

Equation 3 $R^2 = .62$ D.W. = 1.64

$$Q_{MM} = - 23.048\ BP^{*}_{MM} + 7.569\ RPP_{MM} - 0.006\ BA_{MM} - 0.167\ PA_{MM}$$
$$(3.479) \qquad (16.115) \qquad (0.099) \qquad (0.110)$$

$$+ 0.112\ OA_{MM} + 4.150\ MAR^{*} - 4.499\ JUL^{*}$$
$$(0.068) \qquad (1.118) \qquad (1.430)$$

Table 21: (continued)

Equation 4 $R^2 = .66$ D.W. = 1.77

$$Q_{MM} = \underset{(3.774)}{- 20.188\ BP^*_{MM}} + \underset{(16.441)}{10.420\ RPP_{MM}} = \underset{(0.098)}{0.049\ BA_{MM}} - \underset{(0.114)}{0.142\ PA_{MM}}$$

$$+ \underset{(0.070)}{0.089\ OA_{MM}} + \underset{(0.032)}{0.048\ BA_C} + \underset{(0.049)}{0.049\ PA_C} + \underset{(0.045)}{0.073\ OA_C} + \underset{(1.118)}{4.511\ MAR^*} - \underset{(1.388)}{4.100\ JUL^*}$$

FOOD CITY

Equation 1 $R^2 = .59$ D.W. = 2.59

$$Q_{FC} = \underset{(14.184)}{- 51.800\ BP^*_{FC}} + \underset{(12.882)}{31.804\ BP^*_C} + \underset{(23.488)}{19.939\ RPP_{FC}} + \underset{(2.284)}{7.620\ RPL^*_{FC}}$$

$$+ \underset{(0.157)}{0.804\ BA^*_{FC}} - \underset{(0.048)}{0.175\ OA^*_C} + \underset{(1.702)}{3.695\ NOV^*}$$

Equation 2 $R^2 = .60$ D.W. = 2.54

$$Q_{FC} = \underset{(14.607)}{- 48.441\ BP^*_{FC}} + \underset{(13.510)}{27.495\ BP^*_C} + \underset{(23.587)}{19.328\ RPP_{FC}} + \underset{(2.369)}{8.385\ RPL^*_{FC}}$$

$$+ \underset{(0.165)}{0.769\ BA^*_{FC}} - \underset{(0.224)}{0.247\ PA_{FC}} - \underset{(0.172)}{0.097\ OA_{FC}} - \underset{(0.049)}{0.166\ OA^*_C} + \underset{(1.716)}{3.800\ NOV^*}$$

Equation 3 $R^2 = .60$ D.W. = 2.58

$$Q_{FC} = \underset{(17.040)}{- 54.608\ BP^*_{FC}} + \underset{(16.262)}{34.472\ BP^*_C} + \underset{(24.504)}{22.843\ RPP_{FC}} + \underset{(2.494)}{8.564\ RPL^*_{FC}}$$

$$+ \underset{(0.174)}{0.730\ BA^*_{FC}} - \underset{(0.235)}{0.205\ PA_{FC}} - \underset{(0.177)}{0.093\ OA_{FC}} + \underset{(0.053)}{0.043\ BA_C} - \underset{(0.057)}{0.001\ PA_C}$$

$$- \underset{(0.051)}{0.175\ OA^*_C} + \underset{(1.739)}{3.732\ NOV^*}$$

where the starred values denote elasticities computed from significant coefficients.[9]

The own price elasticities in Table 22 show considerable variation among the five chains. In general, the own price elasticities for A and P and Food City are fairly high, while the own price elasticities for Dominion, Loblaws and Miracle Food Mart are substantially lower. The information in this table also shows large differences between the level of pricing and advertising related elasticities. In every case the price related elasticities are higher than the advertising related elasticities. This indicates that the consumers' percentage response to price changes is larger than their percentage response to advertising changes.

Demand Analysis for Individual Cuts

In addition to estimating demand functions for total beef sales by chain, an attempt was also made to estimate separate demand functions for individual beef cuts. Only two chains - - Dominion and Food City - - were used in this analysis. These chains, however, should be fairly representative of beef retailing conditions in the Toronto market.

In the basic model used in this analysis the dependent variable was weekly sales of each cut and the independent variable were: (1) own cut prices, (2) competitors' cut prices, (3) own substitute prices (pork, chicken, veal and lamb), (4) competitors' substitute prices, (5) own advertising (individual cuts, total beef, total pork and total other meats), (6) competitors' advertising, and (7) seasonal dummies.

Because the data supplied by the retailers was expressed only in hundredweight of carcasses, quarters and primals, some method was required to convert this information into weekly sales of individual cuts. The method chosen for this study was the aggregating procedure developed by the Canadian Cattlemen's Association. In this application, however, a reverse procedure was used since the objective was to breakdown carcasses, quarters, and primals into retail cuts instead of the usual application of aggregating retail cuts into carcasses. Although this method provides satisfactory estimates of retail cut quantities, the reader should be aware of the fact that it does not allow for differences in cutting percentages, and hence may introduce some error into the quantity estimates.

The larger number of individual beef cuts considered and the interaction possibilities among these cuts led to a situation where an extrememly large number of independent variables were eligible for inclusion in any of the demand equations. Because of the inherent problems involved in estimating and interpreting equations of such size, a procedure was developed to reduce the size of each equation while preserving as much information as possible. This procedure consisted of two steps. First, an

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[9] An elasticity measures the percentage change in quantity demanded given a one percent change in an explanatory variable with all other factors held constant.

equation consisting of the own price and own advertising variables was estimated, while allowing for the possibility of any of the other variable entering the equation in a stepwise manner. The information obtained was then used to select variables for inclusion in the equations in the next step, provided they met two inclusion criteria. These criteria were that the variable had to have the correct (hypothesized) sign and that they had to be significant at a level of $p < .20$. The second step in this procedure consisted of re-estimating each equation using the stepwise option of SPSS to pull in all of the variables meeting the above criteria. Although this strict procedure was followed for most cuts, slight deviations from the procedure were made in some instances where it appeared that this would improve the results.

The estimated equations for Dominion are shown in Appendix Table D.1. and for Food City in Appendix Table D.2. The definition of symbols used in these equations are as follows:

Q	Quantity sold per week
P	Individual cut price
SP	Advertised specials
RPP	Relative price of pork
RPV	Relative price of veal
RPL	Relative price of lamb
BA	Beef ads
PA	Pork ads
OA	Other meat ads
DM	Dominion
FC	Food City
BRR	Bottom Round Roast
CRR	Cross Rib Roast
ERR	Eye of Round Roast
PSRS	Point Sirloin Roast and Steak
PRR	Prime Rib Roast
RR	Rump Roast
SRR	Short Rib Roast
TRR	Top Round Roast
SR	Shoulder Roast
PS	Porterhouse Steak
RB	Rib Steak
SS	Sirloin Steak
WS	Wing Steak
MBCS	Minced Beef/Chuck/Steak

Individual Cut Demand Analysis for Dominion. Using the coefficients computed for the equation in Appendix Table D.1., elasticities were calculated for each independent variable. These elasticities are shown in Table 23. The starred values indicate elasticities computed from statistically significant coefficients.

Table 22: Aggregate Demand Elasticities for Beef, Toronto.

	BP_{OWN}	BP_C	RPP_{OWN}	RPL_{OWN}	BA_{OWN}	PA_{OWN}	OA_{OWN}	BA_C	PA_C	OA_C
A AND P										
Equation 1	-4.03*	3.98*	.77		.04		- .15	.12		
Equation 2	-3.97*	4.05*	.72		.06	.03	- .12	.12		
Equation 3	-3.92*	4.13*	.54		.07	.03	- .12	.13*	.06	- .07
DOMINION										
Equation 1	-1.54*		2.34*		.12*	- .13*	.21*	- .16*		
Equation 2	-1.52*		2.25		.12*	- .13*	.19*	- .02	- .14	.12
Equation 3	-1.09	- .49	2.21		.12*	- .14*	.22*		- .14*	
Equation 4	- .50	- .59	1.29		.12*	- .13*	.20*	- .02	- .14	.13
LOBLAWS										
Equation 1	-1.77*	.92	- .82		.02		.08	.05		
Equation 2	-1.77*	.91	- .79		.02	- .01	.08	.05		
Equation 3	-1.75*	.88	- .82		.02	- .01	.07	.05	- .01	- .03
MIRACLE										
Equation 1	-1.42*		.54		- .05					
Equation 2	- .64	- .92	.59		.01					
Equation 3	-1.33*		.31		- .01	- .04	.07			
Equation 4	-1.17*		.43		.01	- .03	.06	.04	.04	.11
FOOD CITY										
Equation 1	-5.67*	3.48*	1.52	.80*	.16*					- .63*
Equation 2	-5.30*	3.30*	1.47	.97*	.16*	- .05	- .04			- .59*
Equation 3	-5.97*	3.77*	1.74	.99*	.15*	- .04	- .03	.07	- .01	- .63*

Table 23: Individual Cut Demand Elasticities for Dominion, Toronto

	Bottom Round Roast	Cross Rib Roast	Eye of Round Roast	Point Sirloin Roast	Prime Rib Roast	Rump Roast	Short Rib Roast	Top Round Roast
P_{DM}	-4.19*	-1.67*	1.20	-1.09	-1.05*	-6.52*	- .58*	-7.46*
SP_{DM}	.05	.24*		.02	.08*	.03		- .00
P_{ERR}	5.41*					7.02*		6.33*
P_{PSRS}								2.48
SP_{BRR}		- .07*	.18*					.21*
SP_{RR}								
SP_{TRR}				- .03*				
SP_{WS}					- .05*			
SP_{CRR}								- .10*
SP_{PRR}								
SP_{PPS}								
SP_{SS}								
BA_{PRR_C}					- .06			
BA_{RR_C}						- .14		
BA_{MBCR_C}								
RPP		4.67						
RPV						1.15		
RPL							1.20*	
BA_{DM}				.19*			.09*	
PA_{DM}		- .32*		- .20*			.16*	
OA_{DM}		.60*		.25				

Table 23: (continued)

	Shoulder Roast	Porterhouse Steak	Rib Steak	Sirloin Steak	Wing Steak	Minced Beef/ Chuck/Steak
P_{DM}	-1.45*	-1.26*	.02	-1.33*	-1.27*	- .28
SP_{DM}	.00	.19*	.04*	.02	.02	.03
P_{ERR}						
P_{PSRS}						
SP_{BRR}						
SP_{RR}						
SP_{TRR}	- .02*					
SP_{WS}		- .15*				
SP_{CRR}	.31*					
SP_{PRR}			.07*			
SP_{PPS}			- .04			
SP_{SS}			- .03			
BA_{PRR_C}						
BA_{RR_C}						
BA_{HBCR_C}						- .03
RPP		5.14*		5.98*	4.76	
RPV						
RPL			1.18			
BA_{DM}						
PA_{DM}	- .26*	- .23*		- .29*	- .29*	- .13*
CA_{DM}	.30	.33*		.37*	.34*	.17*

Several interesting observations can be made concerning the elasticities in Table 22 for Dominion. First, most of the own price elasticities are significant, and all of the significant elasticities have the correct sign. The magnitude of these elasticities range from a low of -.58 for short rib roast to a high of -7.46 for top round roast. When considered in relation to the cross price elasticities with other cuts, it can be seen that the higher own elasticities are always associated with significant cross elasticities. This, of course, indicates that those cuts with high own elasticities have close substitutes. In the case of Dominion those cuts with high own price elasticities (bottom round roast, rump roast and top round roast) are all from the round primal. The substitutes for these cuts, as evidenced by their high cross price elasticities, are eye of round roast and point sirloin roast and steak.

In the case of the own cut advertising elasticities the results show that only four of these elasticities are significant. The significant advertising elasticities are for cross rib roast, prime rib roast, porterhouse steak and rib steak. Some cross advertising elasticities with other Dominion cuts and with cuts in other chains were also found to be significant. Most of these were negative and very small.

Advertising elasticities were also calculated for total beef, pork and other meats. Results here showed that total beef ads were not significant in most cases while total pork ads were significant and negative for eight out of the 14 cuts. All of the five significant other meat advertising elasticities were positive.

Finally, cross product elasticities were computed between each of the individual beef cuts and the relative prices of pork, veal and lamb. Although only a few of the elasticities for veal amd lamb were significant, several of the elasticities for pork were significant and fairly large - - in the 4.0 to 6.0 range. It is interesting to observe that most of the significant cross product elasticities for pork are associated with steaks. This implies a strong substitute relationship between these two product classes.

Individual Cut Demand Analysis for Food City. A similar analysis was performed for the same 14 individual beef cuts at Food City. Results of this analysis, in the form of various elasticities, are presented in Table 24 and in equation form in Appendix Table D.2. As before, the starred values denote elasticities computed from significant coefficients.

Contrary to the results for Dominion, most of the own price elasticities for Food City were found to be insignificant. Porterhouse steak and wing steak were the only two cuts exhibiting significant negative elasticities. The opposite situation occurred in the case of the own advertising elasticities. Here 12 out of the 14 elasticities for Food City were positive and significant compared to only four for Dominion. These differences would seem to imply that price is more effective in stimulating beef sales at Dominion, whie advertising is more effective at Food City. This result is consistent with earlier findings in the aggregate demand analysis.

Table 24: Individual Cut Demand Elasticities for Food City, Toronto.

	Bottom Round Roast	Cross Rib Roast	Eye of Round Roast	Point Sirloin Roast	Prime Rib Roast	Rump Roast	Short Rib Roast
P_{FC}	.16	-1.16	.13	-1.32	.69	-2.13	-.16
SP_{FC}	.14*	.32*		.02	.12*	.16*	.11*
P_{ERR}							
P_{PSRS}							
P_{FS}							
SP_{TRR}	.03*						
SP_{SR}	- .17*						- .17*
SP_{RS}		- .05*			.10*		.25*
SP_{BRISK}		- .03*					
SP_{BRR}			.12*				
SP_{CRR}			- .19*				
SP_{PRR}							
SP_{PSRS}							
RPP		6.65		9.25	4.97		4.52
RPV							
BA_{FC}	.33*	.12	.35*				
OA_{FC}					- .20		- .28*
OA_{C}		- .95*					

Table 24: (continued)

	Top Round Roast	Shoulder Roast	Porterhouse Steak	Rib Steak	Sirloin Steak	Wing Steak	Minced Beef/ Chuck/Steak
P_{FC}	- .001	- .75	- 6.73*	.66	- .52	-3.59*	- .61
SP_{FC}	.03*	.43*	.23*	.10*	.18*	.29*	.09*
P_{ERR}			2.75*				
P_{PSRS}			3.49*			6.33*	
P_{FS}			7.84*				
SP_{TRR}			- .01*			- .02*	
SP_{SR}	- .17*						- .04
SP_{RS}							
SP_{BRISK}		- .03*					
SP_{BRR}	.14*						
SP_{CRR}							
SP_{PRR}				.12*			
SP_{PSRS}					.03*		
RPP		5.16		5.85*		-5.23*	
RPV			1.72*				
BA_{FC}	.33*						
OA_{FC}							
OA_{C}							

Another interesting result of the Food City analysis deals with the cross price elasticities between the relative price of pork and the sales of individual beef cuts. Some very high elasticities were observed here with the highest being 9.25 for point sirloin roast and steak. Whereas these elasticities were mainly associated with the roasts at Dominion, they tended to be associated with all types of beef cuts at Food City.

5. Conclusions

The purpose of this study has been to analyze the beef pricing and advertising practices of Toronto supermarkets. The major conclusions of this research are:

1. Beef advertising expenditures as a percent of sales appear to be "reasonable" based on comparisons with other non-meat products. However, when compared with other meat products, particularly pork, these expenditures seem to be low.

2. Beef advertising expenditures are inversely related to beef prices. If advertising increases the demand for beef, this would increase total revenue in the beef industry. Advertising is therefore important during periods of low prices and large supplies.

3. The most frequently and consistently advertised meat items are processed meats. These are followed by beef, pork, poultry, lamb and veal.

4. There appears to be a lack of direct competition in beef advertising by chains. Apparently each chain has certain "favourite" beef cuts they tend to "special" frequently. In general, these cuts are not heavily advertised by other chains. This finding was substantiated by the individual cut demand analysis where only a very small number of significant relationships were found between sales at one chain and advertising at competitive chains for specific cuts.

5. Considerable differences exist in the extent of advertising for individual beef cuts. In general, the roast cuts are advertised most heavily followed by other beef cuts and steaks. A comparison of the level of advertising for each cut with its own advertising elasticity reveals some tendency among chains to feature items with higher advertising elasticities. These cuts, however, while advertised more frequently than other cuts, are discounted approximately the same as other items.

6. In almost all cases those beef cuts receiving very high advertising allocations are lower-priced beef cuts - - those which need extra "sales push". In particular, frozen and minced beef products are advertised more heavily than other beef cuts.

7. There is considerable variation among beef cuts in the extent of the difference between regular and advertised prices. Steaks usually sell at the largest discount when "specialed".

8. In only 2.6 percent of the cases are the special prices of any chain higher than the regular prices of competing chains in the same period. This implies that consumers can be relatively sure that the lowest price in newspaper advertisements of beef specials represents the lowest price for that cut in the market area.

9. There are very large differences in the same period among advertised prices for identical cuts. This implies that consumers can benefit substantially by using newspaper advertising to shop around for their beef purchases.

10. Some sizeable differences exist among chains in the average carcass values for beef. However, with the exception of A and P, these differences are probably small enough that they are not visible to consumers even though they are statistically significant and very important to the chains.

11. For every primal and cut there are statistically significant differences between the highest and lowest-priced chains. Since this appears to be relatively consistent over long periods, it may pay for consumers to shop around for their beef purchases, even when advertising is not specifically taken into account.

12. Price variability over time for carcass values is similar among chains, while for individual cuts price variability is much greater, particularly for steaks and minced beef.

13. The inter-chain correlation for carcass prices is quite high compared to primals and cuts. This implies that while retailers follow somewhat different pricing practices at the primal and cut level, the combined effect of these different practices yield a fairly similar result at the carcass level.

14. There are some seasonal effects in the pricing pattern for beef cuts. The most notable effects are the consistently lower prices for steaks and higher prices for minced beef in the winter months. This study, however, found no distinctive seasonal pattern in beef advertising.

15. The relationship of cut prices to carcass values varies widely across chains in the Toronto market.

16. For each chain, sales of beef cuts are very sensitive (price-elastic) to their own price such that a one percent price decrease would generate more than a one percent increase in sales. Thus, there is some incentive for chains to lower prices since such a strategy results in an increase in total revenue assuming everything else (e.g. competitors' prices) remains the same.

17. Beef prices of competitors have only a minor influence on sales at the larger chains. Competitive prices are, however, more important for the smaller chains (A and P and Food City).

18. In the aggregate, sales of beef are not very sensitive to prices of other products (cross price inelastic), at least over the period covered by this study.

19. The impact of advertising on sales is positive for most chains; however, a one percent change in the number of ads has less impact than a one percent change in price. This does not, however, imply that reducing prices is preferable to increasing advertising if the objective of the firm is profit maximization. Such a determination obviously depends on the costs of the two approaches.

20. Pork advertising tends to have a negative effect on beef sales while other meat advertising has a positive effect. The advertising of competitors in general is not very important.

21. Sizeable differences exist among the response of sales to a firm's own price change. These are probably due to differences in store location, store type, customer type, etc. Sufficient data was not available to determine the exact reasons for these differences.

APPENDIX A

ADVERTISING ANALYSIS

Table A.1. Number of Advertised Beef Items By Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	1.8	4.2	5.4	6.6	1.2
Feb. 1974	1.0	5.0	3.7	7.5	1.0
Mar. 1974	1.7	6.0	4.2	7.2	3.5
Apr. 1974	5.7	4.5	4.5	6.0	2.2
May 1974	6.0	2.8	6.4	9.8	0.4
Jun. 1974	5.3	2.8	5.7	5.0	3.2
Jul. 1974	6.0	1.8	5.2	6.6	1.8
Aug. 1974	4.7	3.0	4.7	7.7	2.7
Sep. 1974	2.5	2.8	5.5	7.2	1.5
Oct. 1974	4.0	4.0	5.4	6.4	1.6
Nov. 1974	2.0	3.2	13.7	2.2	1.7
Dec. 1974	6.8	1.2	3.0	4.2	2.0
Jan. 1975	5.4	4.6	12.4	7.0	7.2
Feb. 1975	13.0	10.5	8.2	6.5	5.2
Mar. 1975	6.5	3.0	5.5	5.2	2.0
Apr. 1975	8.2	2.8	13.6	6.6	3.6
May 1975	7.8	3.8	5.0	3.5	3.5
Jun. 1975	5.0	3.2	3.2	6.2	1.7
Average	5.2	3.8	6.5	6.3	2.6

Table A.2. Number of Advertised Pork Items by Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	7.4	6.2	5.2	4.0	1.2
Feb. 1974	9.0	7.0	4.5	10.7	3.5
Mar. 1974	9.2	6.2	5.7	9.7	2.5
Apr. 1974	6.2	5.5	4.7	5.5	3.8
May 1974	7.0	6.0	3.8	7.6	1.2
Jun. 1974	5.3	4.5	5.0	7.2	1.5
Jul. 1974	2.4	4.6	5.8	6.2	2.2
Aug. 1974	2.7	3.5	4.0	2.7	4.0
Sep. 1974	6.0	2.2	5.0	2.0	4.0
Oct. 1974	4.6	4.0	4.6	4.0	2.6
Nov. 1974	5.0	5.2	5.5	4.5	2.5
Dec. 1974	2.7	4.5	6.0	3.5	3.5
Jan. 1975	2.4	2.6	3.0	2.6	0.8
Feb. 1975	4.7	3.0	10.2	2.2	2.5
Mar. 1975	6.0	4.7	6.5	4.0	3.5
Apr. 1975	6.0	5.4	13.4	6.0	3.2
May 1975	3.2	4.0	9.2	3.5	2.5
Jun. 1975	3.6	4.5	6.0	3.7	1.2
Average	5.2	4.7	6.0	5.0	2.5

Table A.3. Number of Advertised Poultry Items By Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	1.8	3.2	2.2	4.4	0.4
Feb. 1974	2.0	5.0	2.5	6.2	0.5
Mar. 1974	2.0	3.5	2.0	4.0	0.5
Apr. 1974	3.2	5.0	2.0	8.7	0.7
May 1974	2.2	2.2	2.4	5.8	0.8
Jun. 1974	3.0	2.2	2.2	7.7	1.5
Jul. 1974	2.0	3.0	3.2	7.4	1.0
Aug. 1974	2.5	1.5	2.2	3.5	1.0
Sep. 1974	1.2	2.0	3.2	2.2	0.7
Oct. 1974	2.4	2.0	2.6	2.6	1.8
Nov. 1974	4.2	2.0	1.7	4.5	1.2
Dec. 1974	3.5	2.5	3.5	6.5	2.2
Jan. 1975	0.8	1.8	2.8	4.8	1.0
Feb. 1975	0.7	1.5	3.2	3.2	0.5
Mar. 1975	2.0	1.5	4.7	4.7	1.0
Apr. 1975	3.4	0.4	1.8	2.8	0.4
May 1975	2.7	1.2	2.5	2.5	1.0
Jun. 1975	3.6	1.2	2.0	2.2	1.2
Average	2.4	2.3	2.6	4.7	1.0

Table A.4. Number of Advertised Veal Items By Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	-	-	-	-	-
Feb. 1974	-	-	-	-	-
Mar. 1974	-	-	-	1.0	-
Apr. 1974	-	-	-	1.2	-
May 1974	-	-	-	0.8	-
Jun. 1974	-	-	-	0.8	-
Jul. 1974	-	-	-	1.0	-
Aug. 1974	-	-	-	0.5	-
Sep. 1974	-	-	-	-	-
Oct. 1974	-	-	-	0.2	-
Nov. 1974	-	-	0.2	1.0	-
Dec. 1974	-	-	-	0.7	-
Jan. 1975	-	0.2	-	1.2	-
Feb. 1975	-	-	-	3.2	0.5
Mar. 1975	-	-	-	2.2	0.6
Apr. 1975	-	-	-	2.0	1.3
May 1975	0.7	-	-	1.5	1.0
Jun. 1975	-	1.0	-	1.2	1.0
Average	-	0.1	-	1.0	0.8

Table A.5. Number of Advertised Lamb Items By Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	-	0.2	-	0.8	-
Feb. 1974	-	-	-	0.2	-
Mar. 1974	0.2	0.5	0.5	1.0	-
Apr. 1974	-	-	0.7	1.7	-
May 1974	-	-	0.4	1.0	-
Jun. 1974	-	-	0.5	0.8	-
Jul. 1974	-	-	-	0.6	-
Aug. 1974	-	-	0.7	1.5	-
Sep. 1974	0.2	0.2	1.2	0.5	0.2
Oct. 1974	0.6	1.0	0.6	1.0	0.8
Nov. 1974	-	-	0.8	1.0	0.7
Dec. 1974	-	-	0.5	0.2	-
Jan. 1975	0.4	0.6	-	0.4	0.6
Feb. 1975	1.5	-	0.7	0.5	0.7
Mar. 1975	0.2	0.8	0.3	1.2	0.7
Apr. 1975	1.4	1.0	0.6	0.2	0.7
May 1975	0.2	0.2	0.5	-	-
Jun. 1975	0.6	0.2	-	0.2	-
Average	0.3	0.3	0.4	0.7	0.2

Table A.6. Number of Processed Meat Items By Month and By Chain, Toronto, January 1974 to June 1975.

	Number of Items Per Paper				
	A and P	Dominion	Loblaws	Miracle Food Mart	Food City
Jan. 1974	4.8	8.8	6.2	5.0	1.8
Feb. 1974	6.2	9.2	4.5	5.2	3.7
Mar. 1974	5.0	9.2	6.5	6.2	2.5
Apr. 1974	6.7	9.7	6.5	9.2	2.2
May 1974	5.8	10.8	5.2	10.0	1.2
Jun. 1974	5.3	8.0	6.7	12.5	1.7
Jul. 1974	6.6	10.6	6.8	9.4	2.8
Aug. 1974	6.0	9.7	6.5	8.5	3.5
Sep. 1974	6.5	8.2	7.2	5.0	2.7
Oct. 1974	6.4	9.6	8.4	7.0	4.2
Nov. 1974	6.5	10.0	11.2	10.2	3.7
Dec. 1974	7.2	6.5	9.0	9.2	2.2
Jan. 1975	7.8	12.2	12.0	11.2	4.6
Feb. 1975	6.7	11.2	10.7	10.0	3.7
Mar. 1975	7.0	7.0	10.5	7.2	5.0
Apr. 1975	4.8	8.4	10.2	6.6	4.8
May 1975	6.7	8.0	9.0	8.7	5.0
Jun. 1975	7.2	7.2	10.0	8.7	2.7
Average	6.3	9.2	8.1	8.3	3.2

Table A.7. Number of Ads and Average Prices for Bottom Round Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974					1	1.58				
Feb. 1974									1	1.[illegible]
Mar. 1974			1	1.58	1	1.48				
Apr. 1974			1	1.34	1	1.38				
May 1974			1	1.28						
Jun. 1974										
Jul. 1974			1	1.28	1	1.48				
Aug. 1974			1	1.44	1	1.48				
Sep. 1974										
Oct. 1974			1	1.38						
Nov. 1974			1	1.48	2	1.63				
Dec. 1974			1	1.62						
Jan. 1975			2	1.45	1	1.58				
Feb. 1975	2	1.48	1	1.42	1	1.36				
Mar. 1975	1	1.28	1	1.28	1	1.24				
Apr. 1975	1	1.18			2	1.42			2	1.2[illegible]
May 1975	1	1.18	1	1.24					1	1.2[illegible]
Jun. 1975			1	1.48					1	1.48

Table A.8. Number of Ads and Average Prices for Cross Rib Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974									1	1.07
Feb. 1974			1	1.28						
Mar. 1974			1	1.18					1	0.99
Apr. 1974	2	1.13	2	1.08			1	1.22		
May 1974	2	1.23	1	1.08						
Jun. 1974	1	1.18	1	0.94					1	0.82
Jul. 1974	1	1.18	1	0.96					1	0.96
Aug. 1974									1	0.98
Sep. 1974										
Oct. 1974							2	1.14	1	0.95
Nov. 1974			1	1.16	1	1.18			1	1.19
Dec. 1974	1	1.18								
Jan. 1975	1	1.28	1	1.08	1	1.24			1	1.19
Feb. 1975	1	1.18	2	1.10					1	1.08
Mar. 1975			1	0.88			2	0.98	1	0.89
Apr. 1975			2	0.96						
May 1975			1	0.95			2	1.08	2	0.92
Jun. 1975			1	0.94			3	0.95	1	0.95

Table A.9. Number of Ads and Average Prices for Eye of Round Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974										
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974					1	2.08				
Dec. 1974										
Jan. 1975					1	1.99				
Feb. 1975										
Mar. 1975										
Apr. 1975										
May 1975										
Jun. 1975										

Table A.10. Number of Ads and Average Prices for Point Sirloin Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974										
eb. 1974										
ar. 1974										
pr. 1974										
ay 1974										
un. 1974										
ul. 1974										
ug. 1974										
ep. 1974							1			
ct. 1974			1	1.46						
ov. 1974					1	1.98				
ec. 1974										
an. 1975					1	1.87			1	1.65
eb. 1975			1	1.76	1	1.78				
ar. 1975	1	1.48								
pr. 1975	1	1.38			1	1.76				
ay 1975	1	1.38								
un. 1975										

Table A.11. Number of Ads and Average Prices for Prime Rib Roast (1-5 rib) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			1	1.28	1	1.38	1	1.28		
Feb. 1974			1	1.34	1	1.33	1	1.38		
Mar. 1974	1	1.18	2	1.21			2	1.18	1	1.2
Apr. 1974					1	1.15	3	1.12		
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974							2	1.46		
Sep. 1974			1	1.34			1	1.34		
Oct. 1974										
Nov. 1974					1	1.55				
Dec. 1974					1	1.35				
Jan. 1975	1	1.48			1	1.47			1	1.29
Feb. 1975	1	1.58	1	1.23					1	1.29
Mar. 1975	1	1.28			1	1.08	1	1.08		
Apr. 1975							1	1.08		
May 1975										
Jun. 1975										

Table A.12. Number of Ads and Average Prices for Prime Rib Roast (6-7 rib) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974							3	1.18		
eb. 1974							3	1.18		
ar. 1974			1	1.48			4	1.08	3	1.08
pr. 1974					1	1.05	3	1.08		
ay 1974							3	1.22		
un. 1974					1	1.15	2	1.28		
ul. 1974					1	1.27	1	1.38		
ug. 1974							2	1.40		
ep. 1974					1	1.15	3	1.31		
ct. 1974					1	1.28	4	1.38		
ov. 1974					1	1.44				
ec. 1974					1	1.15	2	1.38	2	1.22
an. 1975					1	1.12	5	1.14	2	1.24
eb. 1975							3	1.07	1	1.12
ar. 1975	1	0.98			1	0.98	4	0.98		
pr. 1975			1	1.08	2	0.98	4	0.98		
ay 1975							1	1.18		
un. 1975							2	1.58		

Table A.13. Number of Ads and Average Prices for Rump Roast (Bone-in) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			2	1.61	1	1.54	1	1.58		
Feb. 1974			3	1.61			4	1.63		
Mar. 1974			2	1.52			1	1.46	1	1.4
Apr. 1974			1	1.34	1	1.38				
May 1974					1	1.48				
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974			2	1.38						
Nov. 1974					1	1.56				
Dec. 1974			1	1.48						
Jan. 1975			1	1.48	1	1.57			2	1.5
Feb. 1975			1	1.42					1	1.2
Mar. 1975			1	1.18						
Apr. 1975	1	1.28			1	1.48			1	1.2
May 1975			1	1.24					1	1.2
Jun. 1975									1	1.4

Table A.14. Number of Ads and Average Prices for Rump Roast (Boneless) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974										
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974			1	1.44						
Sep. 1974										
Oct. 1974										
Nov. 1974					1	1.84				
Dec. 1974										
Jan. 1975					1	1.82				
Feb. 1975	2	1.68	1	1.68						
Mar. 1975	1	1.48								
Apr. 1975	1	1.38								
May 1975	1	1.38								
Jun. 1975										

Table A.15. Number of Ads and Average Prices for Short Rib Roast (All bones in) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Aver Pric
Jan. 1974										
Feb. 1974							3	1.11		
Mar. 1974							3	0.98		
Apr. 1974							2	0.88		
May 1974	1	0.98			1	0.87	5	0.80		
Jun. 1974	1	0.98	1	0.78	2	0.82	2	0.80		
Jul. 1974							3	0.76	1	0.7
Aug. 1974							2	0.83	1	0.7
Sep. 1974					1	0.72	3	0.95		
Oct. 1974							3	0.84		
Nov. 1974					1	0.94				
Dec. 1974										
Jan. 1975			1	0.86	3	0.88			1	0.9
Feb. 1975	1	0.88	1	0.72						
Mar. 1975	1	0.84			1	0.68	1	0.78	1	0.6
Apr. 1975	1	0.72	1	0.68	2	0.74	2	0.68		
May 1975			1	0.75	1	0.85				
Jun. 1975					1	0.75				

Table A.16. Number of Ads and Average Prices for Short Rib Roast (Blade Bone Removed) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974										
eb. 1974									1	0.99
ar. 1974									1	0.89
pr. 1974	2	0.91			1	0.88	1	0.88		
ay 1974	1	0.98								
un. 1974									1	0.72
ul. 1974										
ug. 1974										
ep. 1974										
ct. 1974	1	0.98							1	0.95
ov. 1974							1	0.96	1	0.94
ec. 1974	1	0.98					2	0.94		
an. 1975							4	0.86		
eb. 1975	1	0.84					4	0.77	1	0.84
ar. 1975							2	0.68		
pr. 1975	2	0.83					1	0.72	1	0.67
ay 1975	2	0.98							2	0.71
un. 1975			1	0.74			3	0.75	1	0.75

Table A.17. Number of Ads and Average Prices for Short Rib Roast (Boneless) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974										
Feb. 1974										
Mar. 1974					1	1.33				
Apr. 1974	2	1.18								
May 1974	4	1.28								
Jun. 1974	3	1.28								
Jul. 1974	5	1.26								
Aug. 1974	3	1.28								
Sep. 1974	1	1.28								
Oct. 1974	2	1.23								
Nov. 1974										
Dec. 1974	3	1.25								
Jan. 1975	3	1.25								
Feb. 1975	1	1.18								
Mar. 1975	1	1.08								
Apr. 1975	2	1.08								
May 1975	2	1.18								
Jun. 1975	4	1.23								

Table A.18. Number of Ads and Average Prices for Chuck Roasts (All bones in) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974										
Feb. 1974										
Mar. 1974			1	0.98						
Apr. 1974										
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974			1	0.94						
Dec. 1974										
Jan. 1975			1	0.86						
Feb. 1975	1	0.78	2	0.77	3	1.01				
Mar. 1975	1	0.78					1	0.78		
Apr. 1975	1	0.72	1	0.67						
May 1975			1	0.75						
Jun. 1975	1	0.88								

Table A.19. Number of Ads and Average Prices for Chuck Roast (Blade bone removed) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974									1	0.97
Feb. 1974										
Mar. 1974			1	0.98					1	0.89
Apr. 1974	2	0.91	1	0.94						
May 1974	2	0.98	2	0.91						
Jun. 1974	1	0.88							1	0.72
Jul. 1974	2	0.98							1	0.88
Aug. 1974			1	0.84	1	1.28				
Sep. 1974										
Oct. 1974	1	0.98							1	0.95
Nov. 1974			1	0.96	1	0.99	1	0.96	1	0.94
Dec. 1974	1	0.98					3	0.94		
Jan. 1975	1	0.98			3	0.93	5	0.88	1	0.99
Feb. 1975	2	0.86					4	0.77	1	0.89
Mar. 1975							2	0.68	1	0.67
Apr. 1975	2	0.83					3	0.69	1	0.67
May 1975	2	0.98			1	0.89			2	0.71
Jun. 1975			1	0.74			2	0.74	1	0.75

Table A.20. Number of Ads and Average Prices for Chuck Roast (Boneless) Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974					4	1.32				
eb. 1974			1	1.28	2	1.41				
ar. 1974			1	1.24	2	1.36				
pr. 1974	2	1.18	1	0.88	2	1.28	1	1.18		
ay 1974	4	1.28			4	1.28	5	1.13		
un. 1974	3	1.25			3	1.35	2	1.08		
ul. 1974	4	1.28			3	1.28	3	1.07		
ug. 1974	3	1.28			1	1.28	4	1.13		
ep. 1974	1	1.28			2	1.20	2	1.18		
ct. 1974	2	1.28			3	1.31	4	1.17		
ov. 1974					4	1.35				
ec. 1974	4	1.28			2	1.33				
an. 1975	1	1.18			3	1.27				
eb. 1975	1	1.18								
ar. 1975	1	1.08			2	0.98	1	0.98		
or. 1975	2	1.08			2	0.91	4	0.96		
ay 1975	2	1.18					1	0.98		
un. 1975	4	1.23			1	1.28				

Table A.21. Number of Ads and Average Prices for Top Round Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974										
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974										
Jun. 1974									1	1.25
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974					1	1.84				
Dec. 1974										
Jan. 1975					1	1.74				
Feb. 1975	2	1.68	1	1.54	1	1.48				
Mar. 1975	1	1.68			1	1.54				
Apr. 1975	1	1.48								
May 1975										
Jun. 1975										

Table A.22. Number of Ads and Average Prices for Round Bone Shoulder Roast Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974			1	0.98			2	0.98	1	1.07
eb. 1974									1	1.09
ar. 1974							1	0.98	1	0.99
pr. 1974	2	0.88					1	0.88		
ay 1974	2	0.98					5	0.80		
un. 1974	1	0.88					2	0.80	1	0.82
ul. 1974	1	0.88					3	0.77	1	0.96
ug. 1974							2	0.83	1	0.98
ep. 1974					1	0.72	2	0.98		
ct. 1974	2	1.08					2	0.84	1	0.95
ov. 1974									1	0.94
ec. 1974	1	0.98								
an. 1975							1	0.86		
eb. 1975			1	0.82					1	0.84
ar. 1975					1	0.68	1	0.68	1	0.89
pr. 1975	2	0.78			3	0.85			1	0.89
ay 1975	1	0.78			1	0.85	3	0.69	1	0.89
un. 1975					1	0.75	1	0.78	1	0.95

Table A.23. Number of Ads and Average Prices for Flank Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			1	1.08						
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974										
Dec. 1974										
Jan. 1975										
Feb. 1975	2	1.53								
Mar. 1975										
Apr. 1975										
May 1975			1	0.71						
Jun. 1975										

Table A.24. Number of Ads and Average Prices for Porterhouse Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974			3	1.71	1	1.69			1	1.65
eb. 1974			3	1.71	2	1.75				
ar. 1974			2	1.58	1	1.68			1	1.59
or. 1974					1	1.74			1	1.58
ay 1974					2	1.78				
un. 1974					1	1.88			1	1.75
ul. 1974										
ug. 1974										
ep. 1974					1	2.15			1	1.49
ct. 1974			2	1.68	2	1.88			1	1.48
ov. 1974					2	1.93				
ec. 1974					1	1.88				
an. 1975			1	1.62	2	1.68			1	1.65
eb. 1975	2	1.83	1	1.62	1	1.54	1	1.48		
ar. 1975									1	1.39
pr. 1975					2	1.53			1	1.39
ay 1975										
un. 1975										

Table A.25. Number of Ads and Average Prices for Rib Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			1	1.38	2	1.41	3	1.38		
Feb. 1974			1	1.38	1	1.33	3	1.35		
Mar. 1374	1	1.28	2	1.22			4	1.22	1	1.33
Apr. 1974							2	1.22		
May 1974	1	1.28	1	1.38			4	1.38		
Jun. 1974					2	1.45	2	1.40		
Jul. 1974	2	1.38			2	1.53	2	1.58	1	0.99
Aug. 1974	1	1.69					1	1.38	2	1.18
Sep. 1974	1	1.38	2	1.42			2	1.38		
Oct. 1974	1	1.48	1	0.98	2	1.48	3	1.48	1	1.29
Nov. 1974			1	1.56	1	1.64				
Dec. 1974									2	1.49
Jan. 1975	1	1.48					2	1.34	2	1.49
Feb. 1975	1	1.28	1	1.66	1	1.34	1	1.18	1	1.48
Mar. 1975					1	1.32	2	1.08		
Apr. 1975			1	1.38	2	1.38	4	1.08		
May 1975	1	1.18			2	1.48	1	1.28		
Jun. 1975	3	1.48								

Table A.26. Number of Ads and Average Prices for Sirloin Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974			1	1.58	1	1.48	1	1.58		
eb. 1974			2	1.68	2	1.53	3	1.54		
ar. 1974					1	1.38	3	1.38		
pr. 1974					1	1.54			1	1.28
ay 1974					2	1.53				
un. 1974					1	1.66				
ul. 1974										
ug. 1974					1	1.94				
ep. 1974					1	1.88			1	1.49
ct. 1974			2	1.52	2	1.62				
ov. 1974					2	1.69				
ec. 1974					1	1.66				
an. 1975					2	1.49				
eb. 1975	2	1.68	1	1.78	1	1.34	3	1.48		
ar. 1975									1	1.39
pr. 1975					2	1.48			1	1.39
ay 1975										
un. 1975										

Table A.27. Number of Ads and Average Prices for Sirloin Point Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974					1	1.78				
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974					1	1.88				
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974					1	2.08				
Dec. 1974										
Jan. 1975					1	1.97				
Feb. 1975	2	1.78			1	1.78				
Mar. 1975	1	1.68								
Apr. 1975	1	1.48			2	1.83				
May 1975	1	1.48								
Jun. 1975										

Table A.28. Number of Ads and Average Prices for Wing Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974			3	1.71	1	1.69			1	1.65
eb. 1974			3	1.71						
ar. 1974			2	1.58						
pr. 1974									1	1.58
ay 1974					2	1.43				
un. 1974									1	1.75
ul. 1974										
ug. 1974					1	1.38				
ep. 1974									1	1.49
ct. 1974			1	1.68					1	1.48
ov. 1974					1	1.99				
ec. 1974										
an. 1975			1	1.62	2	1.58			1	1.65
eb. 1975			1	1.62	1	1.34			1	1.39
ar. 1975					1	1.32			1	1.39
pr. 1975					2	1.53				
ay 1975										
un. 1975										

Table A.29. Number of Ads and Average Prices for Cube Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974					5	1.86				
Feb. 1974					2	1.91				
Mar. 1974					2	1.83	1	1.18	1	1.79
Apr. 1974					3	1.81	1	0.98		
May 1974					3	1.88				
Jun. 1974					2	1.88				
Jul. 1974					4	1.93				
Aug. 1974					2	1.98				
Sep. 1974					4	1.95				
Oct. 1974					3	1.84				
Nov. 1974					3	1.90				
Dec. 1974					1	1.88				
Jan. 1975					3	1.77			1	1.88
Feb. 1975	2	1.88			3	1.66			1	1.69
Mar. 1975	1	1.68			2	1.68				
Apr. 1975	1	1.68			3	1.78				
May 1975	1	1.78			3	1.91				
Jun. 1975					1	1.98				

Table A.30. Number of Ads and Average Prices for Chuck Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974	1	1.18	1	1.18	3	1.23	2	1.18		
eb. 1974	1	1.28					2	1.18		
ar. 1974			2	1.14	1	1.08	3	1.12		
pr. 1974	2	1.03	2	0.96	1	1.00	2	0.98		
ay 1974	4	1.05	1	0.96	4	1.05	2	0.87		
un. 1974	1	0.98	2	0.83	3	0.93	1	0.86		
ul. 1974	2	0.98	2	0.87	3	0.98	2	0.87		
ug. 1974	2	1.03	2	0.91	3	0.98	1	0.86	1	0.83
ep. 1974			1	0.98	1	0.98			1	0.95
ct. 1974	2	1.13	1	0.98	1	1.14	1	1.18		
ov. 1974			1	1.06	1	1.08				
ec. 1974	3	1.14								
an. 1975	1	1.08	3	0.97	1	1.08				
eb. 1975	2	0.96	2	0.96	2	0.82			1	1.18
ar. 1975	1	0.84	1	0.78						
ar. 1975	2	0.91	2	0.78	2	0.82	2	0.73	1	0.99
ay 1975	2	1.03	1	0.74	2	0.92	3	0.75		
n. 1975	3	0.98	1	0.74	1	0.74	2	0.78		

Table A.31. Number of Ads and Average Prices for Round Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974	1	0.98			1	1.48	1	0.98		
Feb. 1974										
Mar. 1974			1	1.58	1	1.38				
Apr. 1974			2	1.30	1	1.35				
May 1974			1	1.28	1	1.48				
Jun. 1974			1	1.24	1	1.38	1	0.88		
Jul. 1974			1	1.28	1	1.48	4	0.88		
Aug. 1974			1	1.38	1	1.44	1	0.88		
Sep. 1974			1	1.36					1	0.58
Oct. 1974			1	1.38	1	1.48				
Nov. 1974			1	1.48	1	1.68			1	0.89
Dec. 1974			1	1.62			2	0.74		
Jan. 1975			1	1.42	2	1.56	1	0.74		
Feb. 1975	1	1.68	1	1.42	1	1.36	1	0.68		
Mar. 1975	1	1.38	2	1.23						
Apr. 1975	1	1.28			1	1.34				
May 1975	1	1.28	1	1.24						
Jun. 1975			1	1.48	1	1.58				

Table A.32. Number of Ads and Average Prices for Beef Steakette Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974	1	0.98			1	0.97	2	0.97		
eb. 1974	1	0.96								
ar. 1974	1	0.94	1	0.99						
pr. 1974	4	0.91	3	0.90						
ay 1974	3	0.90	1	0.88	1	0.98				
un. 1974	3	1.21	1	0.68			1	0.88		
ul. 1974	3	0.80			1	0.84	4	0.88		
ug. 1974	2	0.79	2	0.78			1	0.88		
ep. 1974	1	0.79	1	0.78	1	0.79	1		1	0.58
ct. 1974			1	0.68						
ov. 1974			4	0.76					1	0.89
ec. 1974							2	0.74		
an. 1975	2	0.66	2	0.72			1	0.74		
eb. 1975			1	0.69	1	0.68	1	0.68		
ar. 1975	2	0.71	1	0.66						
pr. 1975	3	0.64	2	0.62						
ay 1975										
un. 1975	2	0.79	3	0.66						

Table A.33. Number of Ads and Average Prices for Round Bone Shoulder Steak Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Aver Pric
Jan. 1974	1	1.18					3	1.34		
Feb. 1974										
Mar. 1974										
Apr. 1974									1	1.2
May 1974					1	1.48	2	1.02		
Jun. 1974							1	1.18		
Jul. 1974							3	1.07		
Aug. 1974							4	1.13		
Sep. 1974	1	1.38					1	1.18		
Oct. 1974							1	1.28		
Nov. 1974										
Dec. 1974										
Jan. 1975										
Feb. 1975										
Mar. 1975										
Apr. 1975										
May 1975	1	0.98								
Jun. 1975	1	0.98					1	0.88		

Table A.34. Number of Ads and Average Prices for Point Brisket Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
n. 1974			2	0.48						
b. 1974										
r. 1974										
r. 1974										
y 1974										
n. 1974							1	0.48		
l. 1974										
g. 1974										
p. 1974										
t. 1974										
v. 1974					1	0.48				
c. 1974										
n. 1975	1	1.58								
b. 1975									1	1.48
r. 1975										
r. 1975										
y 1975										
n. 1975										

Table A.35. Number of Ads and Average Prices for Plate Brisket Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			1	0.48			4	0.49		
Feb. 1974			2	0.81			4	0.54		
Mar. 1974			2	0.98			1	0.54		
Apr. 1974			1	0.88			1	0.48		
May 1974							4	0.51		
Jun. 1974										
Jul. 1974							1	0.48		
Aug. 1974							3	0.48		
Sep. 1974							1	0.48		
Oct. 1974							2	0.58		
Nov. 1974			1	0.96	1	0.55				
Dec. 1974										
Jan. 1975										
Feb. 1975	1	0.98							1	0.84
Mar. 1975										
Apr. 1975					1	0.58	1	0.48		
May 1975							1	0.58		
Jun. 1975							2	0.48		

Table A.36. Number of Ads and Average Prices for Shank Centre Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974										
Feb. 1974										
Mar. 1974										
Apr. 1974										
May 1974										
Jun. 1974										
Jul. 1974										
Aug. 1974										
Sep. 1974										
Oct. 1974										
Nov. 1974					1	1.04				
Dec. 1974										
Jan. 1975										
Feb. 1975										
Mar. 1975	1	0.88								
Apr. 1975	2	0.88			1	0.88				
May 1975										
Jun. 1975										

Table A.37. Number of Ads and Average Prices for Stewing Beef Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jan. 1974					1	1.28				
Feb. 1974	1	1.28			1	1.38				
Mar. 1974					2	1.60				
Apr. 1974	2	1.30								
May 1974	2	1.28			1	1.38				
Jun. 1974	1	1.28								
Jul. 1974	1	1.28			1	1.28				
Aug. 1974					3	1.35			1	1.2
Sep. 1974					3	1.29				
Oct. 1974	2	1.28			4	1.35				
Nov. 1974	1	1.28			3	1.38				
Dec. 1974	1	1.28			2	1.38				
Jan. 1975	3	1.28	1	1.28	4	1.28			2	1.3
Feb. 1975	2	1.13	2	0.98	3	1.21			2	1.2
Mar. 1975	1	0.98			1	1.08				
Apr. 1975	2	1.03	2	0.98	3	1.17			1	0.9
May 1975	1	1.18	1	0.98	2	1.28				
Jun. 1975	1	1.28			1	1.18				

Table A.38. Number of Ads and Average Prices for Minced Beef Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
Jn. 1974					1	0.99				
Fb. 1974									1	0.99
Mr. 1974					1	0.99			1	0.99
Ar. 1974					1	1.00			3	0.95
My 1974			1	0.88	2	0.93			2	0.92
Jn. 1974			2	0.78	1	0.98			2	0.89
Jl. 1974	1	0.88	2	0.74	1	0.68			2	0.78
Ag. 1974					1	0.73			2	0.74
So. 1974					1	0.67			1	0.69
Oc. 1974			2	0.81	1	0.66	1	0.68		
Nr. 1974			1	0.98	2	0.68	2	0.71		
Dc. 1974			1	0.59			4	0.68	2	0.63
Ja. 1975	2	0.60	3	0.55	3	0.65	5	0.53	1	0.58
Fb. 1975	2	0.73	2	0.58	1	0.48	4	0.49		
Mr. 1975			1	0.44	3	0.72	2	0.46		
Ap. 1975					4	0.55			2	0.54
My 1975			1	0.59	2	0.56				
Jn. 1975			1	0.64	3	0.76				

Table A.39. Number of Ads and Average Prices for Minced Chuck Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974			1	1.28						
Feb. 1974					2	1.24				
Mar. 1974					1	1.18				
Apr. 1974	1	1.28			1	1.18				
May 1974	1	1.18			1	1.18				
Jun. 1974	1	1.18			2	1.11			1	1.15
Jul. 1974	3	1.08			4	0.97				
Aug. 1974	3	1.05	1	0.98	3	0.95				
Sep. 1974			2	0.96	4	0.95				
Oct. 1974	3	1.01	1	0.94	2	0.95				
Nov. 1974	2	0.98			2	0.95				
Dec. 1974	3	0.98			3	0.95				
Jan. 1975	3	0.98			4	0.89				
Feb. 1975	1	0.88	1	0.68	2	0.76				
Mar. 1975					1	0.76				
Apr. 1975	2	0.83	1	0.68	2	0.72			1	0.6
May 1975	2	0.89			2	0.78				
Jun. 1975	1	0.98			1	0.94				

Table A.40. Number of Ads and Average Prices for Minced Round Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
n. 1974										
b. 1974										
r. 1974										
r. 1974										
1974					1	1.38				
n. 1974										
. 1974										
l. 1974										
n. 1974										
. 1974					1	1.28				
. 1974										
. 1974										
. 1975					1	1.18			1	1.29
. 1975	1	1.28			1	1.24			1	1.19
. 1975										
. 1975	1	1.08			2	0.98				
1975	1	1.18								
. 1975										

Table A.41. Number of Ads and Average Prices for Hamburger Patty Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Avera Price
Jan. 1974	1	1.04	3	0.99						
Feb. 1974			2	0.99			3	0.88	1	1.0
Mar. 1974			3	0.97			3	0.88	2	0.9
Apr. 1974			3	0.94			4	0.86	1	0.9
May 1974			5	0.91	2	0.99	5	0.80		
Jun. 1974	1	0.89	2	0.81	1	0.94	4	0.67		
Jul. 1974	4	0.92	2	0.86	2	0.86	5	0.58	1	0.8
Aug. 1974	3	0.87	1	0.84	1	0.84	2	0.74	1	0.7
Sep. 1974	3	0.84	3	0.84	1	0.84	4	0.71		
Oct. 1974	3	0.81	3	0.75	1	0.84	3	0.67	1	0.8
Nov. 1974	3	0.74			2	0.84	2	0.66	1	0.8
Dec. 1974	4	0.74							1	0.7
Jan. 1975	1	0.69	1	0.79	1	0.79	1	0.49	1	0.
Feb. 1975	4	0.69	3	0.69	1	0.72				
Mar. 1975			2	0.69						
Apr. 1975	1	0.69	2	0.71	1	0.79	2	0.60		
May 1975	2	0.69	1	0.64	2	0.68	4	0.51	1	0.
Jun. 1975	2	0.66	1	0.79	1	0.74	3	0.48	1	0.

Table A.42. Number of Ads and Average Prices for Beef Liver Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price
an. 1974	3	0.98			1	0.98				
eb. 1974	1	0.98								
ar. 1974	2	0.98								
pr. 1974	2	0.98							1	0.95
ay 1974										
un. 1974			1	0.99						
ul. 1974					1	0.98				
ug. 1974	2	0.98	1	1.16						
ep. 1974	1	0.98								
ct. 1974	1	0.98								
ov. 1974	1	0.98			2	0.98				
ec. 1974	1	0.98	1	0.99						
an. 1975					1	0.94	1	0.88	1	0.79
eb. 1975			1	0.94	2	0.94	4	0.71	1	0.78
ar. 1975	3	0.78	2	0.64	2	0.76	2	0.68	1	0.59
pr. 1975	5	0.66			2	0.68	3	0.59	1	0.59
ay 1975	4	0.61	2	0.51	2	0.68	1	0.58		
un. 1975	1	0.58					3	0.48	1	0.49

Table A.43. Number of Ads and Average Prices for Beef Braising Rib Specials By Chain and By Month, Toronto, January 1974 to June 1975.

	A and P		Dominion		Loblaws		Miracle Food Mart		Food City	
	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Average Price	Number of Ads	Averag Price
Jan. 1974							3	0.98		
Feb. 1974			1	1.08						
Mar. 1974	1	1.09								
Apr. 1974					1	1.00	1	0.98		
May 1974							5	1.02		
Jun. 1974							1	0.94		
Jul. 1974							2	0.98		
Aug. 1974							2	0.98		
Sep. 1974							1	0.98		
Oct. 1974										
Nov. 1974					1	0.98				
Dec. 1974									1	0.98
Jan. 1975	1	1.18			1	0.97	3	0.98	2	1.04
Feb. 1975	1	0.98	2	0.92					1	0.97
Mar. 1975	1	0.88			1	0.88				
Apr. 1975			1	0.88	2	0.91	1	0.88		
May 1975										
Jun. 1975							1	0.88		

APPENDIX B

PRICING ANALYSIS

Table B.1. Carcass Values by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.54	1.40	1.43	1.39	1.43	.15	AP	MM
Feb. 74	1.60	1.46	1.49	1.47	1.50	.14	AP	DM
Mar. 74	1.55	1.37	1.41	1.34	1.41	.21	AP	MM
Apr. 74	1.41	1.31	1.38	1.30	1.35	.11	AP	MM
May 74	1.46	1.38	1.41	1.34	1.42	.12	AP	MM
Jun. 74	1.51	1.35	1.42	1.35	1.38	.16	AP	DM
Jul. 74	1.55	1.43	1.46	1.41	1.47	.14	AP	MM
Aug. 74	1.61	1.45	1.48	1.44	1.50	.17	AP	MM
Sep. 74	1.60	1.47	1.45	1.46	1.50	.15	AP	LL
Oct. 74	1.58	1.44	1.46	1.43	1.49	.15	AP	MM
Nov. 74	1.57	1.46	1.48	1.45	1.49	.12	AP	MM
Dec. 74	1.57	1.47	1.51	1.46	1.48	.11	AP	MM
Jan. 75	1.54	1.38	1.43	1.37	1.44	.17	AP	MM
Feb. 75	1.41	1.30	1.34	1.25	1.38	.16	AP	MM
Mar. 75	1.30	1.22	1.26	1.17	1.27	.13	AP	MM
Apr. 75	1.27	1.22	1.23	1.19	1.24	.08	AP	MM
May 75	1.45	1.45	1.47	1.44	1.44	.03	LL	FC
Average	1.50	1.38	1.42	1.37	1.42	.13	AP	MM

1/ Price difference between highest and lowest priced chain.

Table B.2. Price of Bottom Round Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.82	1.61	1.64	1.64	1.64	.21	AP	DM
Feb. 74	1.89	1.77	1.76	1.77	1.61	.28	AP	FC
Mar. 74	1.82	1.62	1.62	1.64	1.68	.20	AP	DM-LL
Apr. 74	1.64	1.47	1.52	1.51	1.53	.17	AP	DM
May 74	1.69	1.57	1.68	1.66	1.66	.12	AP	DM
Jun. 74	1.71	1.67	1.73	1.67	1.69	.06	LL	DM-MM
Jul. 74	1.89	1.72	1.75	1.80	1.82	.17	AP	DM
Aug. 74	1.99	1.73	1.78	1.84	1.87	.26	AP	DM
Sep. 74	1.99	1.77	1.78	1.76	1.80	.23	AP	MM
Oct. 74	1.91	1.68	1.77	1.76	1.78	.23	AP	DM
Nov. 74	1.84	1.72	1.75	1.81	1.81	.12	AP	DM
Dec. 74	1.94	1.81	1.89	1.88	1.88	.13	AP	DM
Jan. 75	1.99	1.69	1.82	1.86	1.86	.30	AP	DM
Feb. 75	1.69	1.66	1.67	1.66	1.79	.13	FC	DM-MM
Mar. 75	1.61	1.50	1.50	1.58	1.58	.11	AP	DM-LL
Apr. 75	1.59	1.57	1.53	1.58	1.42	.17	AP	FC
May 75	1.79	1.80	1.95	1.89	1.76	.19	LL	FC
Average	1.81	1.67	1.71	1.72	1.71	.14	AP	DM

1/ Price difference between highest and lowest priced chain.

Table B.3. Price of Cross Rib Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.41	1.36	1.39	1.33	1.32	.09	AP	FC
Feb. 74	1.49	1.39	1.47	1.44	1.48	.10	AP	DM
Mar. 74	1.42	1.27	1.35	1.28	1.26	.16	AP	FC
Apr. 74	1.21	1.16	1.30	1.22	1.21	.14	LL	DM
May 74	1.27	1.13	1.25	1.14	1.24	.14	AP	DM
Jun. 74	1.26	1.07	1.22	1.14	1.04	.22	AP	FC
Jul. 74	1.27	1.10	1.28	1.06	1.14	.22	LL	MM
Aug. 74	1.30	1.13	1.28	1.13	1.21	.17	AP	DM-MM
Sep. 74	1.39	1.28	1.33	1.28	1.31	.11	AP	DM-MM
Oct. 74	1.46	1.35	1.38	1.24	1.29	.17	AP	FC
Nov. 74	1.39	1.21	1.33	1.20	1.33	.19	AP	MM
Dec. 74	1.34	1.25	1.38	1.24	1.26	.14	LL	MM
Jan. 75	1.38	1.23	1.31	1.27	1.25	.15	AP	DM
Feb. 75	1.29	1.17	1.26	1.14	1.21	.15	AP	MM
Mar. 75	1.22	1.08	1.19	.98	1.10	.24	AP	MM
Apr. 75	1.19	1.07	1.20	1.00	1.14	.20	LL	MM
May 75	1.33	1.21	1.38	1.13	1.15	.25	LL	MM
Average	1.33	1.20	1.31	1.19	1.23	.14	AP	...

1/ Price difference between highest and lowest priced chain.

Table B.4. Price of Eye of Round Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	2.12	2.01	1.99	1.99	1.98	.14	AP	FC
Feb. 74	2.19	2.01	2.08	2.08	2.08	.18	AP	DM
Mar. 74	2.19	1.91	1.99	1.89	2.03	.30	AP	MM
Apr. 74	1.99	1.89	1.91	1.89	1.98	.10	AP	DM-MM
May 74	2.03	1.97	1.97	1.97	2.02	.06	AP	DM-LL-MM
Jun. 74	2.11	1.98	2.02	1.97	2.08	.14	AP	MM
Jul. 74	2.22	2.06	2.10	2.10	2.17	.16	AP	DM
Aug. 74	2.29	2.11	2.13	2.06	2.31	.25	FC	MM
Sep. 74	2.29	2.13	2.13	2.13	2.21	.16	AP	DM-LL-MM
Oct. 74	2.29	2.18	2.12	2.14	2.20	.17	AP	LL
Nov. 74	2.29	2.11	2.18	2.12	2.18	.18	AP	DM
Dec. 74	2.29	2.14	2.28	2.15	2.28	.15	AP	DM
Jan. 75	2.29	2.14	2.21	2.14	2.26	.15	AP	DM
Feb. 75	2.24	2.12	2.04	2.09	2.24	.20	AP-FC	LL
Mar. 75	2.14	2.00	2.04	1.88	2.00	.26	AP	MM
Apr. 75	2.09	2.00	2.08	1.96	1.94	.15	AP	FC
May 75	2.24	2.32	2.30	2.23	2.38	.15	FC	MM
Average	2.19	2.07	2.09	2.05	2.13	.14	AP	MM

1/ Price difference between highest and lowest priced chain.

Table B.5. Price of Point Sirloin Roast and Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.88	1.75	1.80	1.78	1.80	.13	AP	DM
Feb. 74	1.99	1.93	1.93	1.93	1.93	.06	AP	DM-LL-MM-FC
Mar. 74	1.99	1.83	1.86	1.83	1.91	.16	AP	DM-MM
Apr. 74	1.87	1.76	1.86	1.76	1.82	.11	AP	DM-MM
May 74	1.88	1.89	1.93	1.90	1.89	.05	LL	AP
Jun. 74	1.96	1.95	1.96	1.94	1.93	.03	AP-LL	FC
Jul. 74	2.08	2.07	2.12	2.10	2.11	.05	LL	DM
Aug. 74	2.14	2.10	2.16	2.10	2.14	.06	LL	DM-MM
Sep. 74	2.10	2.10	2.17	2.10	2.17	.07	LL-FC	AP-DM-MM
Oct. 74	2.10	1.92	2.05	2.03	2.08	.18	AP	DM
Nov. 74	2.09	2.05	2.09	2.07	2.08	.04	AP-LL	DM
Dec. 74	2.09	2.07	2.13	2.07	2.11	.06	LL	DM-MM
Jan. 75	2.12	2.05	2.03	2.04	1.99	.13	AP	FC
Feb. 75	2.06	1.92	1.96	1.93	2.05	.14	AP	DM
Mar. 75	1.81	1.84	1.87	1.83	1.96	.15	FC	AP
Apr. 75	1.79	1.83	1.83	1.84	1.84	.05	MM-FC	AP
May 75	1.91	2.07	2.07	2.04	2.00	.16	DM-LL	AP
Average	1.99	1.95	1.99	1.96	1.99	.04	AP-LL-FC	MM

1/ Price difference between highest and lowest priced chain.

Table B.6. Price of Prime Rib Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.62	1.22	1.23	1.21	1.35	.41	AP	MM
Feb. 74	1.69	1.23	1.28	1.28	1.37	.46	AP	DM
Mar. 74	1.50	1.23	1.17	1.08	1.25	.42	AP	MM
Apr. 74	1.49	1.12	1.18	1.10	1.18	.39	AP	MM
May 74	1.59	1.24	1.31	1.23	1.29	.36	AP	MM
Jun. 74	1.62	1.27	1.31	1.27	1.28	.35	AP	DM-MM
Jul. 74	1.75	1.50	1.49	1.50	1.50	.26	AP	LL
Aug. 74	1.89	1.53	1.58	1.49	1.58	.40	AP	MM
Sep. 74	1.87	1.38	1.34	1.34	1.56	.53	AP	LL-MM
Oct. 74	1.89	1.44	1.43	1.39	1.44	.50	AP	MM
Nov. 74	1.89	1.46	1.54	1.43	1.46	.46	AP	MM
Dec. 74	1.89	1.45	1.49	1.45	1.38	.51	AP	FC
Jan. 75	1.80	1.17	1.44	1.17	1.40	.63	AP	DM-MM
Feb. 75	1.60	1.22	1.30	1.09	1.41	.51	AP	MM
Mar. 75	1.24	1.22	1.07	.98	1.41	.43	FC	MM
Apr. 75	1.14	1.20	1.08	1.02	1.38	.36	FC	MM
May 75	1.43	1.58	1.52	1.48	1.56	.15	DM	AP
Average	1.64	1.32	1.34	1.26	1.40	.38	AP	MM

1/ Price difference between highest and lowest priced chain.

Table B.7. Price of Rump Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.78	1.59	1.57	1.60	1.56	.22	AP	FC
Feb. 74	1.89	1.62	1.65	1.64	1.67	.27	AP	DM
Mar. 74	1.89	1.53	1.53	1.50	1.53	.39	AP	MM
Apr. 74	1.64	1.40	1.46	1.41	1.45	.24	AP	DM
May 74	1.62	1.53	1.55	1.54	1.56	.09	AP	DM
Jun. 74	1.58	1.55	1.62	1.54	1.59	.08	LL	MM
Jul. 74	1.63	1.62	1.64	1.62	1.63	.02	LL	DM-MM
Aug. 74	1.65	1.64	1.67	1.64	1.68	.04	FC	DM-MM
Sep. 74	1.64	1.56	1.61	1.56	1.73	.17	FC	DM-MM
Oct. 74	1.58	1.49	1.56	1.56	1.61	.12	FC	DM
Nov. 74	1.64	1.61	1.64	1.61	1.61	.03	AP-LL	DM-MM-FC
Dec. 74	1.66	1.61	1.68	1.64	1.67	.07	LL	DM
Jan. 75	1.63	1.60	1.62	1.62	1.59	.04	AP	FC
Feb. 75	1.58	1.53	1.60	1.54	1.53	.07	LL	DM-FC
Mar. 75	1.49	1.41	1.49	1.48	1.48	.08	AP-LL	DM
Apr. 75	1.53	1.50	1.50	1.51	1.43	.10	AP	FC
May 75	1.84	1.75	1.85	1.80	1.68	.17	LL	FC
Average	1.66	1.56	1.60	1.58	1.59	.10	AP	DM

1/ Price difference between highest and lowest priced chain.

Table B.8. Price of Short Rib Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference[1/]	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.24	1.08	1.08	1.07	1.14	.17	AP	MM
Feb. 74	1.31	1.15	1.17	1.15	1.19	.16	AP	DM-MM
Mar. 74	1.23	1.00	1.02	.98	1.09	.25	AP	MM
Apr. 74	1.00	.92	.98	.93	.96	.08	AP	DM
May 74	1.09	.89	.95	.85	1.02	.24	AP	MM
Jun. 74	1.15	.80	.93	.80	.85	.35	AP	DM-MM
Jul. 74	1.09	.81	.90	.76	.98	.33	AP	MM
Aug. 74	1.14	.83	.88	.83	.98	.31	AP	DM-MM
Sep. 74	1.21	1.01	1.01	.98	1.06	.23	AP	MM
Oct. 74	1.22	1.05	1.08	.94	1.13	.28	AP	MM
Nov. 74	1.18	.92	1.08	.90	1.10	.28	AP	MM
Dec. 74	1.13	.94	1.07	.94	1.03	.19	AP	DM-MM
Jan. 75	1.19	.90	.98	.87	1.04	.32	AP	MM
Feb. 75	1.07	.84	.92	.78	.94	.29	AP	MM
Mar. 75	.98	.80	.78	.71	.87	.27	AP	MM
Apr. 75	.94	.81	.82	.71	.81	.23	AP	MM
May 75	1.06	.95	.99	.86	.85	.21	AP	FC
Average	1.13	.92	.98	.88	1.00	.25	AP	MM

[1/] Price difference between highest and lowest priced chain.

Table B.9. Price of Top Round Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.92	1.77	1.76	1.75	1.83	.17	AP	MM
Feb. 74	1.99	1.88	1.87	1.88	1.93	.12	AP	LL
Mar. 74	1.99	1.74	1.79	1.76	1.86	.25	AP	DM
Apr. 74	1.84	1.62	1.69	1.61	1.69	.23	AP	MM
May 74	1.83	1.75	1.80	1.76	1.79	.08	AP	DM
Jun. 74	1.88	1.77	1.84	1.77	1.68	.20	AP	FC
Jul. 74	1.92	1.90	1.93	1.90	1.91	.02	AP	DM-MM
Aug. 74	1.99	1.94	1.97	1.94	1.97	.05	AP	DM-MM
Sep. 74	2.09	1.88	1.89	1.90	1.99	.21	AP	DM
Oct. 74	2.07	1.91	1.90	1.90	1.98	.17	AP	LL-MM
Nov. 74	1.98	1.91	1.95	1.91	1.95	.07	AP	DM-MM
Dec. 74	1.98	1.98	1.99	1.98	1.99	.01	LL-FC	AP-DM-MM
Jan. 75	2.05	1.97	1.93	1.96	2.01	.12	AP	LL
Feb. 75	1.84	1.75	1.79	1.82	1.92	.17	FC	DM
Mar. 75	1.84	1.68	1.70	1.68	1.80	.16	AP	DM-MM
Apr. 75	1.81	1.67	1.68	1.68	1.79	.14	AP	DM
May 75	2.04	1.99	2.05	1.99	2.03	.06	LL	DM-MM
Average	1.94	1.83	1.85	1.83	1.89	.11	AP	DM-MM

1/ Price difference between highest and lowest priced chain.

Table B.10. Price of Shoulder Roast by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.31	1.17	1.23	1.14	1.22	.17	AP	MM
Feb. 74	1.39	1.30	1.32	1.30	1.28	.11	AP	FC
Mar. 74	1.32	1.18	1.21	1.12	1.13	.20	AP	MM
Apr. 74	1.04	1.06	1.18	1.02	1.14	.16	LL	MM
May 74	1.12	1.06	1.19	.80	1.12	.39	LL	MM
Jun. 74	1.17	.95	1.11	.90	1.00	.27	AP	MM
Jul. 74	1.17	.96	1.09	.82	1.06	.35	AP	MM
Aug. 74	1.23	.98	1.06	.91	1.09	.32	AP	MM
Sep. 74	1.27	1.13	1.08	1.06	1.18	.21	AP	MM
Oct. 74	1.26	1.13	1.23	1.02	1.18	.24	AP	MM
Nov. 74	1.23	1.03	1.23	1.05	1.12	.20	AP-LL	DM
Dec. 74	1.16	1.08	1.23	1.09	1.14	.15	LL	DM
Jan. 75	1.16	1.07	1.15	1.02	1.10	.14	AP	MM
Feb. 75	1.08	.98	1.06	.96	.99	.12	AP	MM
Mar. 75	.97	1.01	.92	.83	.95	.18	DM	MM
Apr. 75	.91	.93	.92	.79	.95	.16	FC	MM
May 75	1.06	1.12	1.07	1.04	1.04	.08	DM	MM-FC
Average	1.17	1.07	1.13	.98	1.10	.19	AP	MM

1/ Price difference between highest and lowest priced chain.

Table B.11. Price of Flank Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.63	1.51	1.67	1.63	1.69	.18	FC	DM
Feb. 74	1.69	1.72	1.74	1.73	1.73	.05	LL	AP
Mar. 74	1.69	1.68	1.73	1.68	1.68	.05	LL	DM-MM-FC
Apr. 74	1.54	1.63	1.70	1.58	1.67	.16	LL	AP
May 74	1.71	1.70	1.74	1.70	1.72	.04	LL	DM-MM
Jun. 74	1.74	1.73	1.80	1.72	1.78	.08	LL	MM
Jul. 74	1.80	1.82	1.87	1.82	1.95	.15	FC	AP
Aug. 74	1.89	1.84	1.87	1.84	1.98	.14	FC	DM-MM
Sep. 74	1.89	1.77	1.86	1.76	1.99	.23	FC	MM
Oct. 74	1.89	1.76	1.86	1.78	1.95	.19	FC	DM
Nov. 74	1.89	1.91	1.87	1.91	1.86	.05	DM-MM	FC
Dec. 74	1.89	1.97	1.88	1.97	1.88	.09	DM-MM	LL-FC
Jan. 75	1.85	1.87	1.88	1.87	1.88	.03	LL-FC	AP
Feb. 75	1.61	1.84	1.86	1.81	1.88	.27	FC	AP
Mar. 75	1.68	1.70	1.77	1.68	1.83	.15	FC	AP-MM
Apr. 75	1.68	1.70	1.82	1.72	1.78	.14	LL	AP
May 75	1.91	1.61	1.98	1.93	1.96	.37	LL	DM
Average	1.76	1.75	1.82	1.77	1.83	.08	FC	DM

1/ Price difference between highest and lowest priced chain.

Table B.12. Price of Porterhouse Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.84	1.70	1.79	1.70	1.70	.14	AP	DM-MM-FC
Feb. 74	1.89	1.73	1.81	1.76	1.76	.16	AP	DM
Mar. 74	1.82	1.61	1.72	1.59	1.66	.23	AP	MM
Apr. 74	1.73	1.63	1.68	1.63	1.63	.10	AP	DM-MM-FC
May 74	1.93	1.84	1.86	1.83	1.84	.10	AP	MM
Jun. 74	2.07	1.93	1.94	1.89	1.87	.20	AP	FC
Jul. 74	2.27	2.16	2.22	2.16	2.16	.11	AP	DM-MM-FC
Aug. 74	2.39	2.26	2.38	2.26	2.30	.13	AP	DM-MM
Sep. 74	2.23	2.18	2.27	2.18	2.01	.26	LL	FC
Oct. 74	2.06	1.90	2.07	2.04	1.96	.17	LL	DM
Nov. 74	2.16	2.12	2.06	2.12	2.07	.10	AP	LL
Dec. 74	2.28	2.15	2.11	2.14	2.16	.17	AP	LL
Jan. 75	2.20	2.01	1.98	2.06	2.03	.22	AP	LL
Feb. 75	1.86	1.79	1.90	1.58	2.01	.43	FC	MM
Mar. 75	1.88	1.66	1.80	1.63	1.61	.27	AP	FC
Apr. 75	1.90	1.70	1.71	1.72	1.64	.26	AP	FC
May 75	2.26	2.13	2.26	2.13	2.16	.13	AP-LL	DM-MM
Average	2.04	1.91	1.97	1.91	1.91	.13	AP	DM-MM-FC

1/ Price difference between highest and lowest priced chain.

Table B.13. Price of Rib Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference[1/]	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.58	1.41	1.47	1.41	1.50	.17	AP	DM-MM
Feb. 74	1.59	1.37	1.49	1.40	1.58	.22	AP	DM
Mar. 74	1.46	1.24	1.42	1.22	1.41	.24	AP	MM
Apr. 74	1.39	1.27	1.41	1.27	1.38	.14	LL	DM-MM
May 74	1.49	1.40	1.47	1.39	1.49	.24	AP-FC	MM
Jun. 74	1.54	1.43	1.49	1.40	1.49	.14	AP	MM
Jul. 74	1.59	1.60	1.61	1.60	1.50	.10	DM-MM	FC
Aug. 74	1.77	1.64	1.67	1.59	1.43	.34	AP	FC
Sep. 74	1.69	1.51	1.58	1.51	1.68	.18	AP	DM-MM
Oct. 74	1.73	1.46	1.58	1.50	1.58	.27	AP	DM
Nov. 74	1.79	1.60	1.66	1.61	1.62	.19	AP	DM
Dec. 74	1.79	1.86	1.68	1.66	1.59	.27	DM	FC
Jan. 75	1.63	1.62	1.52	1.41	1.53	.22	AP	MM
Feb. 75	1.42	1.45	1.45	1.29	1.47	.18	FC	MM
Mar. 75	1.20	.98	1.35	1.11	1.17	.37	LL	DM
Apr. 75	1.18	1.06	1.36	1.08	1.18	.30	LL	DM
May 75	1.33	1.31	1.49	1.48	1.42	.18	LL	DM
Average	1.54	1.42	1.51	1.41	1.47	.13	AP	MM

[1/] Price difference between highest and lowest priced chain.

Table B. -. Price of Sirloin Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.73	1.59	1.63	1.58	1.62	.15	AP	MM
Feb. 74	1.80	1.58	1.62	1.58	1.66	.22	AP	DM-MM
Mar. 74	1.73	1.41	1.50	1.38	1.51	.35	AP	MM
Apr. 74	1.62	1.48	1.51	1.46	1.43	.19	AP	FC
May 74	1.81	1.74	1.66	1.74	1.73	.15	AP	LL
Jun. 74	1.90	1.84	1.77	1.81	1.80	.13	AP	LL
Jul. 74	2.18	2.12	2.13	2.12	2.12	.06	AP	DM-MM-FC
Aug. 74	2.34	2.21	2.16	2.20	2.23	.18	AP	LL
Sep. 74	2.13	2.11	2.08	2.09	1.96	.17	AP	FC
Oct. 74	1.96	1.77	1.82	1.83	2.02	.25	FC	DM
Nov. 74	1.99	1.92	1.83	1.92	1.98	.15	AP	LL
Dec. 74	2.08	1.97	1.90	1.95	1.97	.18	AP	LL
Jan. 75	2.06	1.87	1.77	1.83	1.91	.29	AP	LL
Feb. 75	1.73	1.76	1.66	1.56	1.77	.20	DM	MM
Mar. 75	1.78	1.58	1.65	1.56	1.53	.25	AP	FC
Apr. 75	1.76	1.60	1.59	1.62	1.54	.22	AP	FC
May 75	2.03	1.98	1.99	2.01	1.98	.04	AP	DM-FC
Average	1.92	1.79	1.78	1.78	1.81	.14	AP	LL-MM

1/ Price difference between highest and lowest priced chain.

Table B.15. Price of Wing Steak by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference[1/]	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.84	1.70	1.71	1.67	1.70	.17	AP	MM
Feb. 74	1.89	1.73	1.77	1.73	1.76	.16	AP	DM-MM
Mar. 74	1.82	1.61	1.69	1.59	1.68	.23	AP	MM
Apr. 74	1.73	1.63	1.64	1.63	1.63	.10	AP	DM-MM-FC
May 74	1.93	1.84	1.69	1.84	1.84	.24	AP	LL
Jun. 74	2.06	1.93	1.91	1.89	1.87	.19	AP	FC
Jul. 74	2.27	2.16	2.14	2.15	2.16	.13	AP	LL
Aug. 74	2.39	2.26	2.05	2.24	2.30	.34	AP	LL
Sep. 74	2.23	2.18	2.23	2.21	2.01	.22	AP-LL	FC
Oct. 74	2.06	2.00	2.12	2.04	1.96	.16	LL	FC
Nov. 74	2.16	2.12	2.06	2.12	2.07	.10	AP	LL
Dec. 74	2.28	2.15	2.08	2.08	2.16	.20	AP	LL-MM
Jan. 75	2.20	2.01	1.88	2.06	2.03	.32	AP	LL
Feb. 75	1.98	1.79	1.78	1.60	2.01	.41	FC	MM
Mar. 75	1.88	1.65	1.62	1.63	1.61	.27	AP	FC
Apr. 75	1.90	1.70	1.65	1.72	1.64	.26	AP	FC
May 75	2.26	2.16	2.16	2.13	2.16	.13	AP	MM
Average	2.05	1.92	1.89	1.90	1.91	.16	AP	LL

[1/] Price difference between highest and lowest priced chain.

Table B.16. Price of Plate/Point Brisket by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.45	1.33	1.35	1.33	1.30	.15	AP	FC
Feb. 74	1.53	1.40	1.43	1.39	1.43	.14	AP	MM
Mar. 74	1.54	1.33	1.41	1.33	1.42	.21	AP	DM-MM
Apr. 74	1.44	1.26	1.41	1.26	1.37	.18	AP	DM-MM
May 74	1.43	1.29	1.44	1.37	1.38	.15	LL	DM
Jun. 74	1.45	1.29	1.31	1.30	1.31	.16	AP	DM
Jul. 74	1.39	1.25	1.31	1.31	1.31	.14	AP	DM
Aug. 74	1.38	1.23	1.27	1.23	1.31	.15	AP	DM-MM
Sep. 74	1.40	1.33	1.33	1.33	1.33	.07	AP	DM-LL-MM-FC
Oct. 74	1.47	1.37	1.36	1.38	1.36	.11	AP	LL-FC
Nov. 74	1.45	1.42	1.41	1.43	1.41	.04	AP	LL-FC
Dec. 74	1.49	1.43	1.46	1.42	1.43	.07	AP	MM
Jan. 75	1.49	1.37	1.43	1.34	1.41	.15	AP	MM
Feb. 75	1.40	1.31	1.35	1.28	1.35	.12	AP	MM
Mar. 75	1.20	1.22	1.29	1.23	1.26	.09	LL	AP
Apr. 75	1.22	1.24	1.32	1.25	1.23	.10	LL	AP
May 75	1.44	1.39	1.44	1.36	1.36	.08	AP-LL	MM-FC
Average	1.42	1.32	1.37	1.33	1.35	.10	AP	DM

1/ Price difference between highest and lowest priced chain.

Table B.17. Price of Shank Centre by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference 1/	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.10	1.04	1.05	1.04	1.06	.06	AP	DM-MM
Feb. 74	1.19	1.16	1.08	1.11	1.14	.08	AP	LL
Mar. 74	1.19	1.06	1.08	1.01	1.06	.18	AP	MM
Apr. 74	1.02	.98	1.08	.98	1.01	.10	LL	DM-MM
May 74	.99	.98	1.08	.98	1.03	.10	LL	DM-MM
Jun. 74	.99	.98	.98	.98	.99	.01	AP-FC	DM-LL-MM
Jul. 74	.99	1.02	1.02	1.04	1.02	.05	MM	AP
Aug. 74	.99	1.08	1.08	1.08	1.04	.09	DM-LL-MM	AP
Sep. 74	.99	1.08	1.08	1.08	1.04	.09	DM-LL-MM	AP
Oct. 74	.99	1.08	1.08	1.08	1.04	.09	DM-LL-MM	AP
Nov. 74	.99	1.08	1.07	1.08	1.04	.09	DM-MM	AP
Dec. 74	.99	1.03	1.08	.98	1.03	.10	LL	MM
Jan. 75	1.05	.98	1.06	.98	1.03	.08	LL	DM-MM
Feb. 75	1.04	.96	1.00	.93	.99	.11	AP	MM
Mar. 75	.96	.88	.94	.88	.94	.08	AP	DM-MM
Apr. 75	.95	.88	.94	.88	.93	.07	AP	DM-MM
May 75	1.07	.88	1.08	.88	.98	.20	LL	DM-MM
Average	1.03	1.01	1.04	1.00	1.02	.04	LL	MM

1/ Price difference between highest and lowest priced chain.

Table B.18. Price of Stewing Beef by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference[1/]	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.42	1.34	1.40	1.37	1.38	.08	AP	DM
Feb. 74	1.44	1.46	1.45	1.46	1.46	.02	DM-MM-FC	AP
Mar. 74	1.49	1.34	1.49	1.35	1.41	.15	AP-LL	DM
Apr. 74	1.36	1.29	1.36	1.31	1.31	.07	AP-LL	DM
May 74	1.34	1.38	1.38	1.28	1.38	.10	DM-LL-FC	MM
Jun. 74	1.38	1.36	1.36	1.36	1.38	.02	AP-FC	DM-LL-MM
Jul. 74	1.40	1.38	1.35	1.35	1.38	.05	AP	LL-MM
Aug. 74	1.49	1.36	1.35	1.36	1.36	.14	AP	LL
Sep. 74	1.49	1.41	1.33	1.41	1.41	.16	AP	LL
Oct. 74	1.41	1.42	1.36	1.42	1.42	.06	DM-MM-FC	LL
Nov. 74	1.44	1.45	1.39	1.45	1.44	.06	DM-MM	LL
Dec. 74	1.44	1.48	1.44	1.47	1.48	.04	DM-FC	AP-LL
Jan. 75	1.36	1.40	1.32	1.39	1.40	.08	DM-FC	LL
Feb. 75	1.28	1.18	1.26	1.33	1.31	.15	MM	DM
Mar. 75	1.28	1.28	1.23	1.28	1.21	.07	AP-DM-MM	FC
Apr. 75	1.24	1.16	1.21	1.28	1.20	.12	MM	DM
May 75	1.38	1.26	1.32	1.36	1.36	.12	AP	DM
Average	1.39	1.35	1.35	1.36	1.37	.04	AP	DM-LL

[1/] Price difference between highest and lowest priced chain.

Table B.19. Price of Minced Beef/Chuck/Round by Month and Chain, Toronto, January 1974 to May 1975.

Month	Retail Chains					Price Difference[1/]	Highest Priced Chain	Lowest Priced Chain
	AP	DM	LL	MM	FC			
Jan. 74	1.33	1.30	1.31	1.28	1.31	.05	AP	MM
Feb. 74	1.36	1.31	1.30	1.31	1.31	.06	AP	LL
Mar. 74	1.36	1.30	1.29	1.29	1.31	.07	AP	LL-MM
Apr. 74	1.30	1.28	1.28	1.27	1.28	.03	AP	MM
May 74	1.27	1.26	1.20	1.26	1.26	.07	AP	LL
Jun. 74	1.27	1.11	1.22	1.15	1.23	.16	AP	DM
Jul. 74	1.15	1.09	1.03	1.11	1.11	.12	AP	LL
Aug. 74	1.12	1.09	1.04	1.11	1.09	.08	AP	LL
Sep. 74	1.15	1.07	1.01	1.11	1.09	.14	AP	LL
Oct. 74	1.10	1.10	1.00	1.11	1.11	.11	MM-FC	LL
Nov. 74	1.09	1.15	1.03	1.09	1.11	.12	DM	LL
Dec. 74	1.06	1.00	1.03	1.00	1.03	.06	AP	DM-MM
Jan. 75	.99	.90	.98	.89	.98	.10	AP	MM
Feb. 75	.97	.86	.89	.83	.93	.14	AP	MM
Mar. 75	.90	.80	.99	.81	.88	.19	LL	DM
Apr. 75	.86	.83	.81	.87	.84	.06	MM	LL
May 75	.94	1.01	.93	1.05	1.05	.12	MM-FC	LL
Average	1.13	1.09	1.08	1.09	1.11	.05	AP	LL

[1/] Price difference between highest and lowest priced chain.

Table C1: Regression Results for Bottom Round Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations													R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.05	.564	-.42			-.06	-.14	-.08	-.19					-.09	.84	.85	5
		(4.17)	(10.01)			(1.74)	(3.75)	(2.33)	(4.92)					(2.50)			
DM	.174	1.11	-.188												.76	.99	13
		(9.80)	(9.70)														
LL	.752	.717	-.213			-.09	-.10								.76	.86	12
		(4.99)	(7.88)			(2.50)	(3.00)										
MM	.606	.825					-.085								.64	1.73	0
		(8.02)					(2.78)										
FC	.542	.849	-.472				-.08								.76	.77	4
		(5.73)	(10.20)				(2.08)										

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table [illegible] Regression Results for Cross Rib Roast, Toronto, [illegible], [illegible], 1975.

Retail Chains	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	R^2	D.W.	Adv.[1]
	Variables in Equations																
AP[2]	[illegible]	.677	-.110	.03	.06	.04			-.05	-.07	-.11		.07		.89	2.05	9
		(14.71)	(8.04)	(2.15)	(4.28)	(2.56)			(2.93)	(3.54)	(6.04)		(3.64)				
DM	.360	.637	-.138	.054	.120			-.040	-.136	-.133	-.167		.084		.76	1.38	15
		(6.30)	(6.75)	(1.88)	(4.19)			(1.44)	(3.94)	(3.45)	(4.64)		(2.12)				
LL	.315	.714	-.112		.05				-.11	-.07	-.09				.71	1.18	2
		(10.67)	(3.12)		(2.70)				(4.80)	(2.81)	(4.01)						
MM	[illegible]	1.15	-.086	.14	.15	.14	.11			-.14	-.11		.06		.81	1.42	7
		(12.05)	(3.36)	(5.54)	(6.18)	(4.86)	(4.03)			(4.11)	(3.77)		(1.82)				
FC	[illegible]	.978	-.228	.08	.12	.10	.06		-.09	-.09	-.07			.10	.86	2.10	12
		(8.08)	(11.42)	(3.20)	(4.77)	(3.55)	(1.93)		(2.90)	(2.81)	(2.39)			(3.31)			

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C3: Regression Results for Eye of Round Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables In Equations														R^2	D.W.	Adv. 1/
	Constant	Carcass	Special	Jan.	Feb.	Mar	Apr.	May	Jun	Jul	Aug	Sep.	Oct.	Nov.			
AP 2/	1.96	.198		-.062		-.064	-.165	-.118	-.154						.63	.58	0
		(1.88)		(2.27)		(2.15)	(5.00)	(4.10)	(4.55)								
DM	1.63	.324				-.078	-.113	.047	-.094				.070		.85	.51	4
		(2.08)				(1.99)	(2.77)	(1.41)	(2.12)				(1.46)				
LL	1.10	.706	-.033						-.08						.30	.18	2
		(5.15)	(.44)						(1.73)								
MM	1.44	.471				-.105	-.118		-.097						.57	.44	0
		(3.78)				(2.97)	(3.36)		(2.49)								
FC	1.17	.681					-.093			.126					.40	.64	0
		(3.44)					(1.91)			(2.24)							

1/ Number of advertisements during 17 months.

2/ Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C4: Regression Results for Point Sirloin Roast and Steak, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations													R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.67	.262	-.339	-.09		-.07	-.14	-.11	-.11		.05				.78	.69	3
		(2.03)	(9.35)	(2.91)		(2.29)	(3.87)	(3.36)	(3.08)		(1.25)						
DM	1.12	.626	-.183	-.098		-.077	-.114				.072				.62	.53	2
		(3.86)	(4.22)	(2.73)		(1.92)	(2.73)				(1.66)						
LL	.757	.854	-.045	-.06						.10	.14	.17		.07	.68	.54	5
		(6.74)	(1.06)	(2.03)						(2.41)	(3.60)	(3.94)		(1.73)			
MM	1.30	.493		-.08		-.07	-.10			.09	.11	.08			.64	.50	0
		(3.88)		(2.54)		(2.01)	(3.05)			(2.18)	(2.70)	(1.76)					
FC	1.57	.328	-.139	-.15		-.07	-.16	-.12	-.10		.07	.10			.64	.79	1
		(1.87)	(2.47)	(4.03)		(1.83)	(3.56)	(3.36)	(2.20)		(1.73)	(2.07)					

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C5: Regression Results for Prime Rib Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	-.133	1.24	-.237			-.19	-.20	-.17	-.12					.10	.85	1.05	4
		(8.18)	(4.55)			(4.62)	(4.33)	(4.01)	(2.43)					(2.21)			
DM	-.152	1.07	-.022	-.144	-.094					.113	.134			.081	.66	1.07	8
		(8.04)	(.57)	(3.75)	(2.41)					(2.13)	(2.75)			(1.69)			
LL	.001	.959	-.116			-.10	-.09			.10	.16			.13	.78	1.03	15
		(6.12)	(4.31)			(2.69)	(2.42)			(2.18)	(3.70)			(3.01)			
MM	-.207	1.13	-.036	-.14	-.12	-.15	-.12			.11	.10	-.07			.91	1.16	48
		(12.00)	(2.17)	(5.89)	(4.85)	(5.50)	(4.67)			(3.46)	(3.53)	(2.30)					
FC	1.31	.086	-.174			-.06	-.13		-.15		.14	.12			.57	.69	
		(.52)	(4.69)			(1.63)	(3.26)		(3.56)		(3.35)	(2.71)					

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table 6.1: Regression Results for Rump Roast, Toronto, January 1974

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	-.163	1.15	-.145	.09	.16	.20	.22	.24					-.08		.71	.97	1
		(10.18)	(1.86)	(3.09)	(5.64)	(6.28)	(6.26)	(7.66)					(2.09)				
CM	.209	.999	-.121		.061							-.114	-.146		.69	1.20	15
		(10.33)	(5.52)		(2.18)							(2.97)	(3.72)				
LL	.76	.599	-.095				-.05	-.08					-.08		.61	.76	6
		(6.05)	(3.42)				(2.00)	(3.40)					(2.30)				
MM	.590	.720	-.045		.04			.07				-.08	-.06		.62	.60	6
		(9.26)	(1.50)		(1.73)			(3.00)				(2.33)	(1.84)				
FC	.750	.603	-.205			-.06						.07			.66	1.85	6
		(5.02)	(6.72)			(2.15)						(1.90)					

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C7: Regression Results for Short Rib Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables In Equations														R^2	D.W.	Adv.[1/]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2/]	.104	.696	-.161	.03	.06					-.09	-.09		.06		.90	1.69	10
		(13.77)	(10.76)	(2.05)	(3.92)					(4.21)	(4.62)		(2.93)				
DM	-.263	.890						-.060	-.147	-.183	-.211			-.086	.66	.77	0
		(9.31)						(2.29)	(4.35)	(4.84)	(6.09)			(2.51)			
LL	-.384	.981	-.080		.04			-.05	-.09	-.14	-.19				.75	1.11	1
		(12.33)	(1.36)		(1.90)			(2.30)	(3.22)	(4.43)	(6.80)						
MM	-.761	1.17	-.070	.14	.15	.14	.14			-.14	-.12				.76	1.23	14
		(10.34)	(2.88)	(4.89)	(5.34)	(4.35)	(4.56)			(3.69)	(3.44)						
FC	-.511	1.11	-.157					-.09	-.12	-.13	-.16	-.10			.80	1.09	10
		(11.90)	(7.08)					(4.05)	(3.86)	(3.80)	(5.74)	(2.89)					

[1/] Number of advertisements during 17 months.

[2/] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table [illegible] Regression Results for Top Round Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.48	.324	-.267				-.05		-.09	-.07		.09	.09		.73	.70	4
		(3.49)	(7.45)				(2.02)		(2.85)	(2.00)		(2.70)	(2.79)				
DM	.721	.822	-.222			-.060	-.114		-.060						.72	.53	1
		(6.29)	(2.87)			(1.90)	(3.42)		(1.67)								
LL	.689	.842	-.091	-.05		-.08	-.10								.72	.68	4
		(6.63)	(2.35)	(1.74)		(2.55)	(3.20)										
MM	.757	.801					-.105		-.058						.68	.83	0
		(8.04)					(3.57)		(1.66)								
FC	1.00	.641	-.543				-.08		-.07						.69	.59	1
		(5.02)	(6.46)				(2.60)		(1.68)								

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table [illegible]: Regression Results for Shoulder Roast, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1/]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2/]	-.276	.987	-.221								-.08		.11	-.05	.87	1.36	12
		(12.60)	(10.52)								(2.73)		(3.27)	(1.72)			
DM	-.43	1.07	-.153	.07	.10	.14	.09		-.06	-.12	-.15			-.07	.76	1.40	2
		(9.35)	(2.85)	(2.50)	(3.92)	(4.74)	(2.94)		(1.86)	(3.52)	(4.97)			(2.37)			
LL	.070	.784	-.279						-.07	-.12	-.17	-.06			.77	1.43	6
		(7.41)	(8.36)						(2.08)	(3.19)	(5.17)	(1.70)					
MM	-.762	1.27	-.129	.12	.16	.16	.14			-.13	-.12				.88	1.77	25
		(12.38)	(7.35)	(4.79)	(6.19)	(5.38)	(5.12)			(4.09)	(3.94)						
FC	-.521	1.15	-.125		.04	.06	.09			-.06	-.10				.76	1.05	13
		(9.36)	(6.07)		(1.72)	(2.15)	(3.04)			(1.73)	(3.08)						

[1/] Number of advertisements during 17 months.

[2/] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table [illegible]: Regression Results for Flank Steak, Toronto, January 1974 to [illegible]

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.61	.175	-.153	-.14	-.18	-.18	-.23	-.07	-.14	-.10					.65	.73	2
		(1.36)	(2.30)	(4.20)	(4.87)	(4.83)	(5.37)	(2.00)	(3.35)	(2.37)							
DM	1.17	.434	-.918				-.067							.081	.74	1.05	2
		(3.01)	(13.23)				(1.76)							(1.83)			
LL	1.87	-.003		-.097	-.062	-.105	-.111		-.075						.33	.30	0
		(.032)		(3.44)	(2.19)	(3.28)	(3.44)		(2.14)								
MM	1.48	.234		-.070		-.086	-.125		-.076					.080	.42	.30	0
		(1.64)		(1.96)		(2.11)	(3.08)		(1.71)					(1.85)			
FC	1.77	.024					-.076			.133	.174	.182	.182		.54	.25	0
		(.167)					(2.27)			(3.14)	(4.37)	(4.19)	(4.19)				

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C11: Regression Results for Porterhouse Steak, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations													R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.58	.361	-.045	-.12	-.23	-.25	-.27				.22				.62	.46	2
		(1.88)	(.39)	(2.18)	(3.76)	(4.47)	(4.57)				(3.32)						
DM	.378	1.15	-.230		-.083	-.171	-.153			.119	.212	.118			.81	1.15	12
		(6.06)	(5.76)		(1.73)	(3.58)	(3.16)			(2.03)	(3.93)	(1.97)					
LL	.951	.810	-.223	-.14	-.16	-.21	-.25		-.10		.23	.19			.80	1.21	19
		(3.86)	(6.93)	(3.00)	(3.37)	(3.94)	(4.58)		(1.64)		(3.89)	(3.02)					
MM	.917	.834	-.188	-.18	-.31	-.38	-.29	-.12	-.14		.14				.78	.55	1
		(4.06)	(1.40)	(3.38)	(5.76)	(6.18)	(4.67)	(2.31)	(2.22)		(2.25)						
FC	.664	.946	-.303	-.09	-.13	-.21	-.20				.20				.73	.76	9
		(3.73)	(5.90)	(1.66)	(2.33)	(3.63)	(3.13)				(3.04)						

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C12: Regression Results for Rib Steak, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	-.079	1.16	-.249		-.21	-.19	-.17	-.14	-.07					.08	.87	1.91	11
		(9.03)	(8.82)		(6.06)	(4.90)	(4.08)	(3.89(	(1.79)					(1.84)			
DM	-.511	1.48	.015		-.17	-.24	-.24	-.22				-.17		-.14	.66	1.48	11
		(5.60)	(.37)		(2.73)	(3.50)	(3.44)	(3.61)				(1.87)		(1.74)			
LL	.916	.499	-.076	.09	-.16	-.17	-.18	-.14	-.12			-.06			.76	1.65	15
		(4.08)	(3.80)	(3.12)	(5.55)	(5.34)	(5.45)	(5.13)	(3.63)			(1.69)					
MM	.089	1.05	-.085	-.06	-.15	-.13	-.15	-.09							.79	1.77	36
		(7.26)	(3.74)	(1.74)	(4.19)	(3.14)	(3.65)	(2.55)									
FC	-.729	1.56	-.185												.65	2.66	10
		(10.68)	(5.00)														

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C13: Regression Results for Sirloin Steak, Toronto, January 1974 to May 1975.

Retail Chains	Variables In Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.51	.282	-.105		-.13	-.15	-.21			.20	.37	.17			.74	.57	2
		(1.78)	(1.14)		(2.66)	(3.32)	(4.45)			(3.40)	(6.89)	(2.79)					
DM	1.08	.555	-.171	-.093	-.084	-.290	-.260			.224	.325	.216			.77	.92	6
		(2.57)	(2.91)	(1.82)	(1.57)	(5.20)	(4.52)			(3.31)	(5.25)	(3.16)					
LL	1.02	.600	-.239	-.09	-.13	-.20	-.20			.21	.31	.25			.84	1.02	20
		(3.30)	(8.60)	(2.23)	(3.14)	(4.30)	(4.18)			(3.73)	(6.20)	(4.47)					
MM	.907	.682	-.190	-.12	-.13	-.19	-.23			.23	.32	.18			.82	.92	10
		(3.81)	(3.60)	(2.61)	(2.44)	(2.97)	(4.53)			(3.73)	(5.67)	(3.00)					
FC	1.27	.491	-.192	-.20	-.25	-.36	-.36	-.15	-.15	.11	.22				.82	.75	4
		(2.11)	(4.36)	(4.00)	(5.10)	(6.45)	(5.82)	(2.98)	(2.47)	(1.73)	(3.91)						

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C14: Regression Results for Wing Steak, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	1.69	.282		-.102	-.162	-.241	-.266			.114	.242				.60	.42	0
		(1.50)		(1.89)	(3.00)	(4.31)	(4.55)			(1.58)	(3.58)						
DM	.315	1.20	-.217		-.10	-.18	-.16			.11	.20	.11			.81	1.14	11
		(6.27)	(5.09)		(2.01)	(3.68)	(3.18)			(1.84)	(3.68)	(1.74)					
LL	1.48	.439	-.351	-.21	-.24	-.36	-.36	-.12	-.19			.11			.77	1.15	11
		(1.62)	(6.88)	(3.62)	(4.14)	(5.41)	(5.21)	(2.23)	(2.78)			(1.54)					
MM	.67	.946		-.091	-.259	-.279	-.187			.113	.206	.151			.77	1.58	0
		(4.87)		(1.80)	(5.14)	(4.96)	(3.34)			(1.69)	(3.37)	(2.24)					
FC	.715	.900	-.323		-.11	-.22	-.18				.22				.71	.70	8
		(3.45)	(5.90)		(2.05)	(3.87)	(2.95)				(3.26)						

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C15: Regression Results for Plate/Point Brisket, Toronto, January 1974 to May 1975.

Retail Chains	Variables In Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	.141	.872	.047							-.08	-.16	-.14	-.04	-.06	.78	1.44	2
		(14.60)	(1.37)							(3.41)	(6.91)	(5.28)	(1.65)	(2.59)			
DM	.479	.616	-.005		.04				-.03	-.10	-.15	-.06		-.06	.80	1.30	9
		(12.60)	(.40)		(2.69)				(1.72)	(5.20)	(8.33)	(2.89)		(3.37)			
LL	.596	.575	.047	-.04					-.08	-.12	-.17	-.10	-.08	-.06	.76	1.18	2
		(10.91)	(1.74)	(2.57)					(4.98)	(6.37)	(9.69)	(5.52)	(4.02)	(3.00)			
MM	.660	.503	.008	-.03			-.03		-.04	-.05	-.15	-.07		.05	.81	.92	24
		(10.67)	(.91)	(2.61)			(2.27)		(2.79)	(3.11)	(8.85)	(3.75)		(2.78)			
FC	.261	.776	.064	-.02		.03	.04			-.08	-.12	-.09	-.06		.71	1.27	1
		(10.62)	(1.65)	(1.55)		(1.93)	(2.24)			(4.02)	(6.22)	(4.55)	(3.04)				

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C16: Regression Results for Shank Centre, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	.205	.498	-.087	.09	.17	.16	.13	.10	.04						.76	.86	3
		(7.38)	(3.16)	(5.54)	(10.25)	(9.19)	(6.80)	(5.82)	(1.84)								
DM	.193	.589			.065			-.094						.047	.67	.71	0
		(9.38)			(3.51)			(5.34)						(2.04)			
LL	.323	.513	-.059				.02		-.05	-.06					.72	1.53	2
		(10.90)	(2.68)				(1.75)		(3.41)	(4.05)							
MM	.376	.448			.044			-.071			.056	.050	.061	.059	.73	1.40	0
		(7.88)			(2.55)			(4.37)			(2.60)	(2.12)	(2.62)	(2.74)			
FC	.411	.420		.026	.058	.033									.65	.90	0
		(9.61)		(2.17)	(4.83)	(2.65)											

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C17: Regression Results for Stewing Beef, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations													R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	.604	.553	-.192				.04								.83	2.57	20
		(7.86)	(13.32)				(2.07)										
DM	.76	.461	-.297			-.04	-.05	-.06			-.07				.86	1.08	6
		(5.90)	(14.53)			(1.91)	(2.47)	(3.38)			(3.08)						
LL	.196	.834	-.079			.08									.52	2.01	34
		(7.84)	(4.43)			(2.62)											
MM	.646	.540			.011		-.019	-.078	-.027	-.054	-.066				.87	1.73	0
		(15.67)			(1.13)		(1.86)	(8.30)	(2.22)	(4.02)	(5.41)						
FC	.184	.841	.0004					-.05			-.08				.67	2.09	6
		(11.04)	(.03)					(2.63)			(3.32)						

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table C18: Regression Results for Minced Beef/Chuck/Round, Toronto, January 1974 to May 1975.

Retail Chains	Variables in Equations														R^2	D.W.	Adv.[1]
	Constant	Carcass	Special	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.			
AP[2]	-.198	.936	-.137						.09		-.10	-.15	-.13		.55	1.05	32
		(6.54)	(4.82)						(1.65)		(1.77)	(2.39)	(2.11)				
DM	.012	.803	-.122												.29	.61	23
		(4.26)	(3.29)														
LL	-1.19	1.50	-.001	.19	.15	.29	.30	.08	.30						.48	.77	39
		(6.04)	(.03)	(3.64)	(2.87)	(4.75)	(4.78)	(1.66)	(4.63)								
MM	-.090	.908	-.227			.07					-.11	-.12			.59	.56	18
		(6.51)	(7.47)			(1.67)					(2.11)	(2.10)					
FC	-1.17	1.52	-.013	.14	.11	.18	.26	.16	.29						.38	.64	19
		(5.70)	(.33)	(2.51)	(2.06)	(2.91)	(3.61)	(2.97)	(4.11)								

[1] Number of advertisements during 17 months.

[2] Top number is estimated coefficient; number in parentheses is "t" value associated with that coefficient.

Table D1: Retail Demand Equations for Individual Cuts at Dominion

Bottom Round Roast $R^2 = .44$, D.W. = 2.49

$$Q_{BRR} = -1.775 - \underset{(4.197)}{13.971}\, P^*_{BRR} + \underset{(1.667)}{1.420}\, SP_{BRR} + \underset{(4.762)}{14.582}\, P^*_{ERR} + \underset{(1.232)}{2.678}\, MAR^*$$

Cross Rib Roast $R^2 = .75$, D.W. = 2.58

$$Q_{CRR} = -15.534 - \underset{(3.297)}{9.114}\, P^*_{CRR} + \underset{(1.050)}{7.742}\, SP^*_{CRR} - \underset{(0.941)}{2.728}\, SP^*_{BRR} + \underset{(18.187)}{30.718}\, RPP$$

$$- \underset{(0.157)}{0.439}\, PA^* + \underset{(0.098)}{0.324}\, OA^* - \underset{(1.189)}{2.744}\, FEB^*$$

Eye of Round Roast $R^2 = .35$, D.W. = 2.12

$$Q_{ERR} = -1.238 + \underset{(1.889)}{1.698}\, P_{ERR} + \underset{(0.556)}{3.160}\, SP^*_{BRR} + \underset{(0.703)}{1.354}\, MAR$$

Point Sirloin Roast and Steak $R^2 = .35$, D.W. = 2.10

$$Q_{PSRS} = 7.803 - \underset{(1.614)}{2.378}\, P_{PSRS} + \underset{(1.848)}{3.274}\, SP_{PSRS} - \underset{(3.075)}{9.397}\, SP^*_{TRR} + \underset{(0.102)}{0.213}\, BA^*$$

$$- \underset{(0.091)}{0.191}\, PA^* + \underset{(0.055)}{0.089}\, OA + \underset{(0.843)}{2.378}\, OCT^*$$

Prime Rib Roast $R^2 = .45$, D.W. = 2.25

$$Q_{PRR} = 9.98 - \underset{(1.411)}{4.110}\, P^*_{PRR} + \underset{(0.658)}{3.974}\, SP^*_{PRR} - \underset{(0.607)}{1.808}\, SP^*_{WS} + \underset{(0.055)}{0.073}\, OA$$

$$- \underset{(0.273)}{0.315}\, BA_{PRR_C} - \underset{(0.673)}{1.221}\, JAN$$

Rump Roast $R^2 = .40$, D.W. = 2.37

$$Q_{RR} = -1.291 - \underset{(1.952)}{10.081}\, P^*_{RR} + \underset{(1.956)}{8.026}\, P^*_{ERR} + \underset{(0.482)}{0.343}\, SP_{RR} - \underset{(0.242)}{0.386}\, BA_{RR_C} + \underset{(1.860)}{2.680}\, RPV$$

Table D1: (continued)

Short Rib Roast $R^2 = .49$, D.W. = 2.24

$$Q_{TRR} = -3.175 - \underset{(7.161)}{26.343}\, P^*_{TRR} + \underset{(6.433)}{19.854}\, P_{PSRS} + \underset{(4.917)}{8.240}\, P^*_{ERR} - \underset{(4.360)}{1.938}\, SP_{TRR}$$

$$+ \underset{(1.171)}{6.725}\, SP^*_{BRR} - \underset{(1.130)}{3.017}\, SP^*_{CRR} + \underset{(1.422)}{3.079}\, MAR^*$$

Top Round Roast $R^2 = .49$, D.W. = 2.24

$$Q_{TRR} = -3.175 - \underset{(7.161)}{26.343}\, P^*_{TRR} + \underset{(6.433)}{19.854}\, P_{PSRS} + \underset{(4.917)}{8.240}\, P^*_{ERR} - \underset{(4.360)}{1.938}\, SP_{TRR}$$

$$+ \underset{(1.171)}{6.725}\, SP^*_{BRR} - \underset{(1.130)}{3.017}\, SP^*_{CRR} + \underset{(1.422)}{3.079}\, MAR^*$$

Shoulder Roast $R^2 = .69$, D.W. = 2.51

$$Q_{SR} = 30.079 - \underset{(7.043)}{19.154}\, P^*_{SR} + \underset{(6.765)}{0.187}\, SP_{SR} - \underset{(9.740)}{24.591}\, SP^*_{TRR} + \underset{(2.060)}{21.279}\, SP^*_{CRR}$$

$$- \underset{(0.359)}{0.792}\, PA^* + \underset{(0.217)}{0.343}\, OA$$

Porterhouse Steak $R^2 = .37$, D.W. = 1.83

$$Q_{PS} = -6.779 - \underset{(0.474)}{1.486}\, P^*_{PS} + \underset{(0.870)}{2.593}\, SP^*_{PS} - \underset{(0.896)}{2.280}\, SP^*_{WS} - \underset{(0.045)}{0.114}\, PA^*$$

$$+ \underset{(0.028)}{0.062}\, OA^* + \underset{(5.361)}{11.702}\, RPP^*$$

Rib Steak $R^2 = .37$, D.W. = 2.18

$$Q_{RS} = -.562 + \underset{(0.381)}{0.032}\, P_{RS} + \underset{(0.314)}{0.632}\, SP^*_{RS} + \underset{(0.349)}{1.523}\, SP^*_{PRR} - \underset{(0.263)}{0.481}\, SP_{PS}$$

$$- \underset{(0.384)}{0.681}\, SP_{SS} + \underset{(1.426)}{2.695}\, RPL$$

Table D1: (continued)

Sirloin Steak $R^2 = .34$, D.W. = 1.98

$$Q_{SS} = -21.388 - \underset{(1.140)}{4.208}\ P^*_{SS} + \underset{(0.985)}{1.247}\ SP_{SS} - \underset{(0.117)}{0.352}\ PA^* + \underset{(0.072)}{0.176}\ OA^*$$

$$+ \underset{(14.348)}{34.300}\ RPP^* + \underset{(1.128)}{2.560}\ OCT^*$$

Wing Steak $R^2 = .32$, D.W. = 2.06

$$Q_{WS} = -5.82 - \underset{(0.492)}{1.495}\ P^*_{WS} + \underset{(0.326)}{0.357}\ SP_{WS} - \underset{(0.047)}{0.142}\ PA^* + \underset{(0.029)}{0.063}\ OA^*$$

$$+ \underset{(5.580)}{10.839}\ RPP + \underset{(0.453)}{1.339}\ OCT^*$$

Minced Beef/Chuck/Steak $R^2 = .25$, D.W. - 1.53

$$Q_{MBCS} = 27.429 - \underset{(3.887)}{5.784}\ P_{MBCS} + \underset{(1.321)}{1.895}\ SP_{MBCS} - \underset{(0.267)}{0.593}\ PA^* + \underset{(0.158)}{0.319}\ OA^*$$

$$- \underset{(1.224)}{1.759}\ BA_{MBCS_C}$$

Table D2: Retail Demand Equations for Individual Cuts at Food City

Bottom Round Roast $R^2 = .50$, D.W. = 2.38

$$Q_{BRR} = .335 + \underset{(0.429)}{0.053}\ P_{BRR} + \underset{(0.331)}{1.482}\ SP^{*}_{BRR} + \underset{(0.456)}{1.228}\ SP^{*}_{TRR} - \underset{(0.157)}{0.567}\ SP_{SR}$$

$$+ \underset{(0.021)}{0.071}\ BA^{*} - \underset{(0.169)}{0.316}\ FEB$$

Cross Rib Roast $R^2 = .72$, D.W. = 2.31

$$Q_{CRR} = - 4.913 - \underset{(0.792)}{1.188}\ P_{CRR} + \underset{(0.363)}{2.484}\ SP^{*}_{CRR} - \underset{(0.282)}{0.499}\ SP_{RS} - \underset{(0.860)}{2.266}\ SP^{*}_{BRISK}$$

$$+ \underset{(4.790)}{8.421}\ RPP + \underset{(0.039)}{0.057}\ BA - \underset{(0.010)}{0.026}\ OA^{*}_{C}$$

Eye of Round Roast $R^2 = .44$, D.W. = 2.33

$$Q_{ERR} = 0.184 + \underset{(0.204)}{0.019}\ P_{ERR} + \underset{(0.132)}{0.685}\ SP^{*}_{ERR} - \underset{(0.099)}{0.353}\ SP^{*}_{CRR} + \underset{(0.012)}{0.048}\ BA^{*} - \underset{(0.095)}{0.216}\ FEB^{*}$$

Point Sirloin Roast or Steak $R^2 = .15$, D.W. = 2.41

$$Q_{PSRS} = - 2.973 - \underset{(0.420)}{0.282}\ P_{PSRS} + \underset{(0.461)}{0.731}\ SP_{PSRS} + \underset{(2.780)}{3.939}\ RPP + \underset{(0.238)}{0.565}\ SEP^{*}$$

Prime Rib Roast $R^2 = .67$, D.W. = 1.91

$$Q_{PRR} = - 2.150 + \underset{(0.198)}{0.227}\ P_{PRR} + \underset{(0.152)}{0.702}\ SP^{*}_{PRR} + \underset{(0.113)}{0.353}\ SP^{*}_{RS} + \underset{(1.351)}{2.290}\ RPP - \underset{(0.010)}{0.019}\ OA$$

Rump Roast $R^2 = .39$, D.W. = 2.34

$$Q_{RR} = 0.723 - \underset{(0.260)}{0.338}\ P_{RR} + \underset{(0.107)}{0.494}\ SP^{*}_{RR} + \underset{(0.076)}{0.111}\ MAY + \underset{(0.114)}{0.193}\ SEP$$

Table D2: (continued)

Short Rib Roast $R^2 = .65$, D.W. = 1.82

$$Q_{SRR} = -0.912 - \underset{(0.138)}{0.046}\, P_{SRR} + \underset{(0.074)}{0.229}\, SP^{*}_{SRR} - \underset{(0.068)}{0.265}\, SP^{*}_{SR} + \underset{(0.049)}{0.519}\, SP^{*}_{RS}$$

$$- \underset{(0.006)}{0.016}\, OA^{*} + \underset{(0.859)}{1.264}\, RPP$$

Top Round Roast $R^2 = .50$, D.W. = 2.39

$$Q_{TRR} = 0.498 - \underset{(0.585)}{0.004}\, P_{TRR} + \underset{(0.654)}{1.423}\, SP^{*}_{TRR} + \underset{(0.268)}{1.694}\, SP^{*}_{BRR} - \underset{(0.182)}{0.663}\, SP^{*}_{SR}$$

$$+ \underset{(0.024)}{0.083}\, BA^{*} - \underset{(0.198)}{0.365}\, FEB$$

Shoulder Roast $R^2 = .86$, D.W. = 2.23

$$Q_{SR} = -10.377 - \underset{(1.272)}{1.865}\, P_{SR} + \underset{(0.408)}{6.635}\, SP^{*}_{SR} - \underset{(1.167)}{6.051}\, SP^{*}_{BRISK} + \underset{(7.079)}{14.148}\, RPP$$

Porterhouse Steak $R^2 = .86$, D.W. = 2.03

$$Q_{PS} = -1.851 - \underset{(0.120)}{0.788}\, P^{*}_{PS} + \underset{(0.141)}{0.289}\, P^{*}_{ERR} + \underset{(0.148)}{0.394}\, P^{*}_{PSRS} + \underset{(0.227)}{0.959}\, P^{*}_{FS}$$

$$+ \underset{(0.054)}{0.426}\, SP^{*}_{PS} - \underset{(0.105)}{0.232}\, SP^{*}_{TRR} + \underset{(0.104)}{0.397}\, RPV^{*} - \underset{(0.055)}{0.161}\, OCT^{*}$$

Rib Steak $R^2 = .69$, D.W. = 1.84

$$Q_{RS} = -1.139 + \underset{(0.066)}{0.088}\, P_{RS} + \underset{(0.057)}{0.145}\, SP^{*}_{RS} + \underset{(0.066)}{0.292}\, SP^{*}_{PRR} + \underset{(0.581)}{1.164}\, RPP^{*} + \underset{(0.046)}{0.089}\, AUG$$

Table D2: (continued)

Sirloin Steak $R^2 = .63$, D.W. = 2.29

$$Q_{SS} = \underset{}{0.694} - \underset{(0.211)}{0.163\ P_{SS}} + \underset{(0.228)}{1.840\ SP^{*}_{SS}} + \underset{(0.389)}{1.281\ SP^{*}_{PSRS}} + \underset{(0.211)}{0.400\ SEP} + \underset{(0.183)}{0.382\ NOV^{*}}$$

Wing Steak $R^2 = .86$, D.W. = 2.15

$$Q_{WS} = \underset{}{0.708} - \underset{(0.087)}{0.421\ P^{*}_{WS}} + \underset{(0.149)}{0.714\ P^{*}_{PSRS}} + \underset{(0.048)}{0.606\ SP^{*}_{WS}} - \underset{(0.105)}{0.336\ SP^{*}_{TRR}}$$

$$+ \underset{(0.036)}{0.083\ MAY^{*}} + \underset{(0.053)}{0.111\ SEP^{*}} - \underset{(0.679)}{1.181\ RPP^{*}}$$

Minced Beef/Chuck/Round $R^2 = .25$, D.W. = 2.00

$$Q_{MBCR} = \underset{}{3.950} - \underset{(0.855)}{1.415\ P_{MBCR}} + \underset{(0.307)}{0.905\ SP^{*}_{MBCR}} - \underset{(0.355)}{0.622\ SP^{*}_{SR}} + \underset{(0.587)}{1.364\ SEP^{*}}$$